

B & O

BEOLAB 8000

MODEL

SERVICE MANUAL

Bang & Olufsen

Beovox 3000

Beolab 3000

Beovox 5000

Beolab 5000

Beovox Cona

BEOVOX 5



LIST OF MECHANICAL PARTS

01modul	8006038	PCB transformer			
02modul	8006047	PCB power supply			
03modul	8006046	PCB output amplifier			
04modul	8006048	PCB crossover network			
05modul	8006052	PCB line/shift			
06modul	8006050	PCB stand by			
07modul	8006051	PCB powerlink			
08modul	8006049	PCB NTC			
9001	8480242	Woofers	9017	3340084	Gasket f. stand by
9002	3340082	Gasket f. woofer and tweeter	9018	3340100	Gasket f. bottom
9003	3340102	Gasket f. woofer and port	9019	3340083	Gasket f. mains cable
9004	8480243	Tweeter	9020	3340085	Gasket f. signal cable
9005	3440152	Baffle	9021	3131359	Cone
	3947395	Tape	9022	3034066	Lock fittings f. socket holder
9006	3458787	Woofers port			
9007	3430590	Cabinet	9023	3114378	Chassis cone
	3947350	Foam tape, 10 meter		3947350	Foam tape, 10 meter
	3947529	Black tape, 66 meter			
9008	3458838	Top, inside	9024	3152838	Holder f. line/shift
9009	2732095	O-ring			
9010	3458782	Top, outside	9025	7219075	Socket f. mains cable
9011	6850219	Coil, 6.8mH			
9012	2510151	Clamp	9026	3451204	Cloth front
9013	3454739	Bottom	9027	3358300	Heat sink
9014	3168952	Socket holder		3947350	Foam tape, 10 m
9015	2530541	Fitting	9028	3114379	Chassis PW
9016	3164871	Lid f. socket holder	9029	2938283	Bushing
			9030	3103321	Foot

Survey of screws and washers

1	2015139	Screw, 3.5x16	11	2013154	Screw, 3x16
2	2015143	Screw, 4x16	12	2013137	Screw, 3x10
3	2622338	Washer, Ø4.1	13	2013144	Screw, 3x8
4	2013186	Screw, 3.5x12	14	2013188	Screw, 3x8
5	2019023	Screw, 4x10	15	2622455	Washer, Ø4
6	2011055	Screw, 3x10	16	2013185	Screw, 4x20
7	2011056	Screw, 3x16	17	2390114	Snap ring
8	2624013	Washer, Ø3	18	2576285	Spacer
9	2622247	Washer, Ø3.2	19	2380156	Nut, M8
10	2013189	Screw, 3x26			

Parts not shown

7530119	Solder tag	6100245	Mains cable, type 6801, 6802
6276490	Wire, 1P4 - Main socket	6100268	Mains cable, type 6803
6276492	Wire, 5P4-6P5	6100247	Mains cable, type 6804
6276494	Wire, 1P3-2P8	6100248	Mains cable, type 6805
6276526	Wire, 2P3-6P7	6270418	HT cable, 5m
6276527	Wire, 2P4-6P6	330133	Cable assembler, 1.5 m
6276528	Wire, 1P1-2P2	3392203	Outer carton
3332040	Damper, big	3397706	Foam packing
3332043	Damper, medium	3392234	Wood piece, long
3332044	Damper, small	3392237	Wood piece
3103313	Foot, "Spike", adjustable		
3103322	Foot "Soft", adjustable		
3340029	Pipe wrench		

Owners Manual

3506189	Danish	3506194	Dutch
3506190	Swedish	3506195	French
3506191	Finnish	3506196	Italian
3506192	English	3506197	Spanish
3506193	German		

JUSTERING

Når R121 og R122 skal justeres er det ikke nødvendigt at have højttalere tilsluttet.

Udskiftning af diskanthøjttaleren.

1. Tilfør et signal fra en tonegenerator, 10 kHz - 100 mV til enten:
 - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
 - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
 - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til diskanthøjttalerstikket P6-1/P6-3.
3. Juster R122-PCB02 til der måles 2,95 V.

Udskiftning af bashøjttaler.

Ved udskiftning af en enkelt bashøjttaler må der ikke justeres i R121-PCB02.

Ved udskiftning af *begge* bashøjttalere skal R121-PCB02 justeres:

1. Tilfør et signal fra en tonegenerator, 1 kHz - 100 mV til enten:
 - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
 - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
 - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til bashøjttalerstikket P6-4/P6-5.
3. Juster R121-PCB02 til der måles 4,8 V.

Udskiftning af PCB02

Ved udskiftning af PCB02 skal potentiometer R121 og R122 justeres:

Justering af R122

1. Tilfør et signal fra en tonegenerator, 10 kHz - 100 mV til enten:
 - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
 - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
 - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til diskanthøjttalerstikket P6-1/P6-3.
3. Juster R122-PCB02 til der måles 2,95 V.

ADJUSTMENT

When adjusting R121 and R122 it is not necessary to have speakers connected.

Replacement of the treble speaker

1. Feed a signal from a tone generator, 10 kHz - 100 mV to either:
 - pin 5 (switch in position RIGHT) on the POWER LINK socket
 - pin 3 (switch in position LEFT) on the POWER LINK socket
 - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the treble speaker socket P6-1/P6-3.
3. Adjust R122-PCB02 until 2.95 V are measured.

Replacement of the bass speaker

When replacing a single bass speaker, do not adjust R121-PCB02.

When replacing *both* bass speakers, adjust R121-PCB02.

1. Feed a signal from a tone generator, 1 kHz - 100 mV to either:
 - pin 5 (switch in position RIGHT) on the POWER LINK socket
 - pin 3 (switch in position LEFT) on the POWER LINK socket
 - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the bass speaker socket P6-4/P6-5.
3. Adjust R121-PCB02 until 4.8 V are measured.

Replacement of PCB02

When replacing PCB02 adjust potentiometers R121 and R122:

Adjustment of R122

1. Feed a signal from a tone generator, 10 kHz - 100 mV to either:
 - pin 5 (switch in position RIGHT) on the POWER LINK socket
 - pin 3 (switch in position LEFT) on the POWER LINK socket
 - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the treble speaker socket P6-1/P6-3.
3. Adjust R122-PCB02 until 2.95 V are measured.

Justering af R121

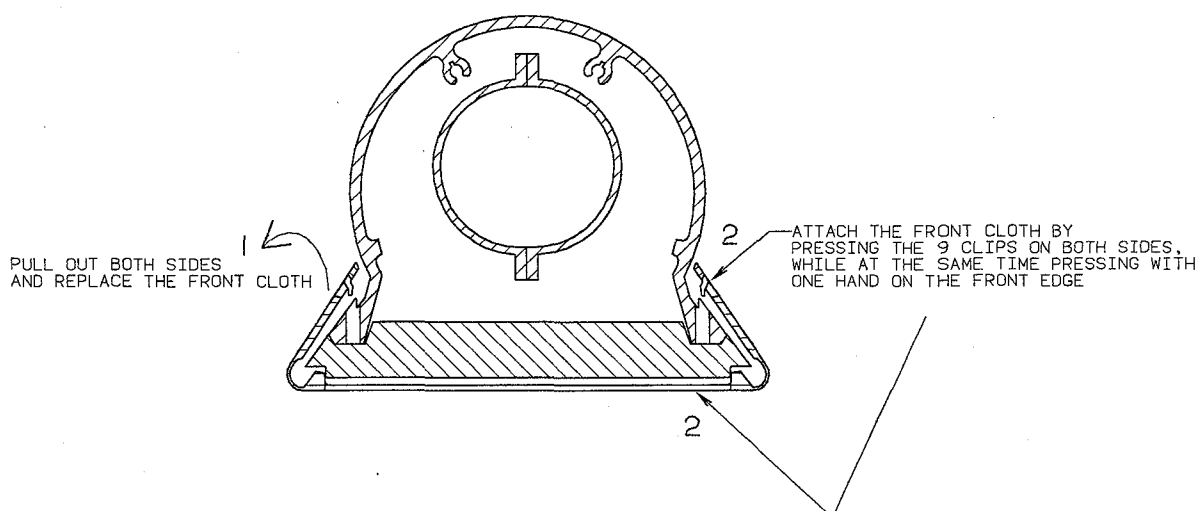
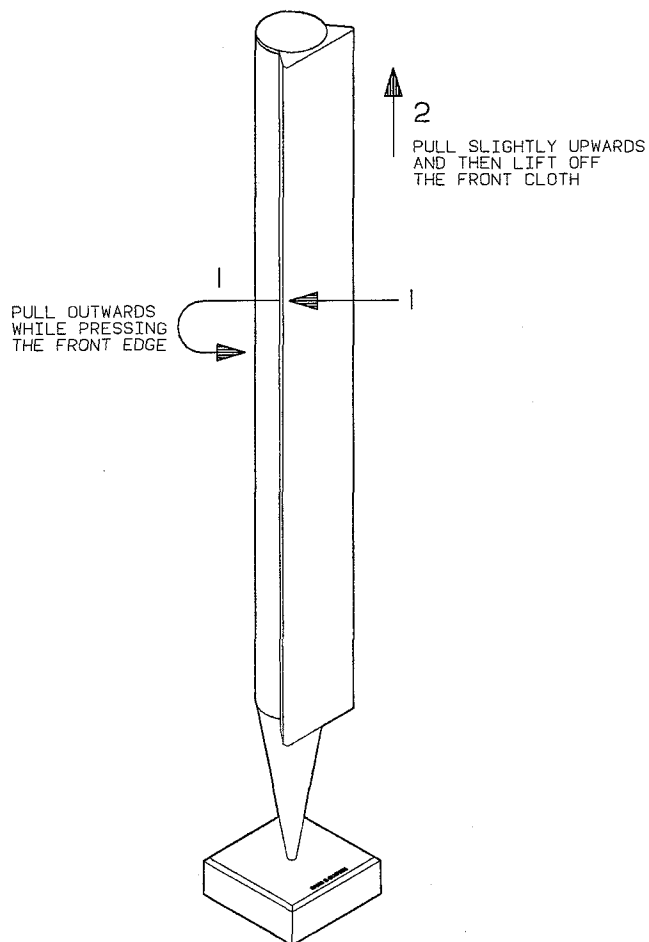
1. Tilfør et signal fra en tonegenerator, 1 kHz - 100 mV til enten:
 - ben 5 (omskifter i stilling RIGHT) på POWER LINK stikket.
 - ben 3 (omskifter i stilling LEFT) på POWER LINK stikket.
 - phonostikket (omskifter i stilling PHONO).
2. Slut et AC-voltmeter til bashøjtalerstikket P6-4/P6-5.
3. Juster R121-PCB02 til der måles 4,8 V.

Adjustment of R121

1. Feed a signal from a tone generator, 1 kHz - 100 mV to either:
 - pin 5 (switch in position RIGHT) on the POWER LINK socket
 - pin 3 (switch in position LEFT) on the POWER LINK socket
 - the phono socket (switch in position PHONO)
2. Connect an AC voltmeter to the bass speaker socket P6-4/P6-5.
3. Adjust R121-PCB02 until 4.8 V are measured.

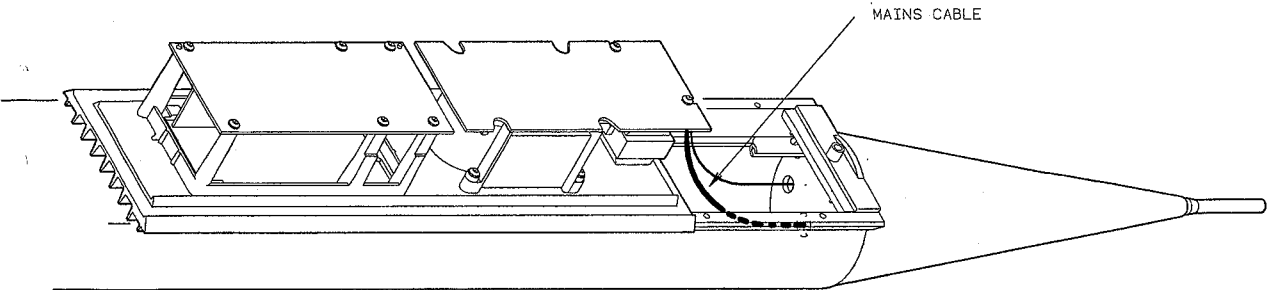
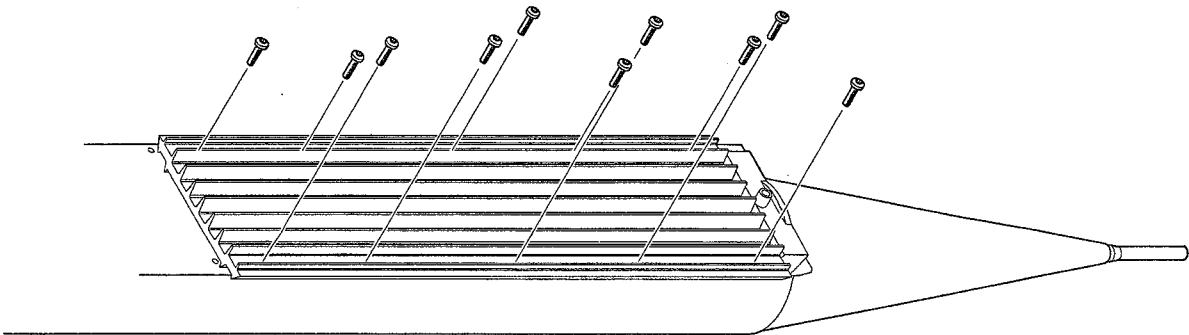
ADSKILLELSE

DISASSEMBLY



Adskillelse

Disassembly



REPARATIONSTIPS

Ved reparation af Beolab 8000 kan det være en fordel at benytte en original emballage til at lægge højttaleren i.

Vigtigt!

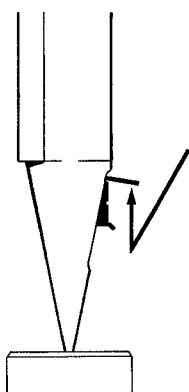
Ladeelektrolytterne C9-PCB02 og C10-PCB02 skal aflades med en 500 ohms effektmodstand, 5W inden der skiftes komponenter. Disse ladeelektrolytter aflades nemlig ikke, hverken i stand-by eller ved fjernelse af net-spændingen. (Spændingen kan holde sig i op til en uge).

Placering af type og serienr.**REPAIR TIPS**

When repairing a Beolab 8000 it may be a good idea to place the speaker in an original speaker packaging.

Important!

The charging electrolytes C9-PCB02 and C10-PCB02 must be discharged with a 500 ohm effect resistor, 5W, before replacering components. These charging electrolytes will not be discharged, either in stand-by or when disconnecting the mains voltage. (The voltage can remain for up to a week).

Positioning of type and serial numbers**Autostart-kredsløb**

Hvis man under en reparation ønsker at slukke for autostart-kredsløbet, kan det gøres ved at kortslutte C83-PCB02.

Udskiftning af termosikring

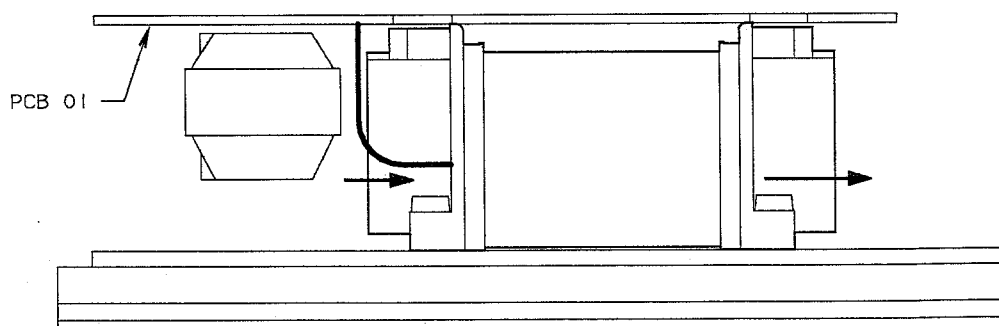
Termosikringen TF1 skal placeres på samme måde som den defekte. Ved afmontering skal termosikringen loddes fra i printet og trækkes ud i den modsatte side af transformatoren. Den nye sikring skal monteres på samme måde, altså ved at føre tilledningerne gennem transformatoren og lodde dem i printet.

Autostart circuit

If it is desirable to switch off the autostart circuit during a repair, this can be achieved by short-circuiting C83-PCB02.

Replacement of thermal fuse

The thermal fuse, TF1, must be positioned in the same way as the defective fuse. When dismantling the defective fuse, it must be unsoldered from the PCB and pulled out on the opposite side of the transformer. The new fuse must be positioned in the same way, i.e. by running the supply leads through the transformer and soldering them to the PCB.



Forslag til fremgangsmåde ved reparation

Højttaleren er tavs, rødt lys i lysdioden.

Kontroller følgende:

- Står omskifteren rigtigt?
- Forsyningsspændingen +/-15V DC.
- Mål spændingen mellem R83 og R86 på PCB02, den skal være ca. 11.3V.
- Spændingen på kollektoren af TR11-PCB02, den skal være under 0,5V DC.

Højttaleren er tavs, grønt lys i lysdioden.

Kontroller følgende:

- Står omskifteren rigtigt?
- Sikringerne F1 og F2.
- Sikringsmodstand R64 på PCB02.
- Forsyningsspændingen +/-50V DC.
- Forsyningsspændingen +/-15V DC.
- Er delefilteret monteret?
- Er relæ RL1 trukket?
- AC-forsyningsspændingen (D12-PCB02) ca. 40V AC.
- Spændingen på C43-PCB02, der skal være ca. 30V DC.
- Spændingen på IC3-PCB03, ben 9, den skal være under -45V DC.
- Spændingen på basis af mutetransistorerne TR2-PCB02 og TR5-PCB02 skal være ca. -2V DC.

Suggested repair procedure

The speaker is silent, the LED emits red light.

Check the following:

- Is the switch in the right position?
- The supply voltage +/-15V DC.
- Measure the voltage between R83 and R86 on PCB02. It should be approx. 11.3V.
- The voltage at the collector of TR11-PCB02. It should be less than 0.5V DC.

The speaker is silent, the LED emits green light.

Check the following:

- Is the switch in the right position?
- The fuses F1 and F2.
- Fuse resistor R64 on PCB02.
- The supply voltage +/-50V DC.
- The supply voltage +/-15V DC.
- Is the crossover network installed?
- Is relay RL1 driven?
- The AC supply voltage (D12-PCB02) approx. 40V AC.
- The voltage at C43-PCB02, which should be approx. 30V DC.
- The voltage at IC3-PCB03, pin 9; it should be less than -45V DC.
- The voltage at the base of the mute transistors TR2-PCB02 and TR5-PCB02 should be approx. -2V DC.

ISOLATIONSTEST

Ethvert apparat skal isolationstestes, efter at det har været adskilt. Testen udføres, når apparatet er samlet igen og er klar til udlevering til kunden.

Der må ikke forekomme overslag under testen!

Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes den ene af terminalerne på isolationstesteren. Den anden terminal tilsluttes stel på phono bøsningen (LINE IN).

OBS!

For at undgå beskadigelser af apparatet er det vigtigt, at begge terminaler på isolationstesteren har virkelig god kontakt.

Spændingsreguleringen på isolationstesteren drejes langsomt op, indtil en spænding på 1,5-2 kV er opnået. Her skal den holdes i ét sekund, hvorefter der langsomt drejes ned for spændingen igen.

INSULATION TEST

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.

Flashovers must not occur during the testing procedure!

Make the insulation test as follows:

Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground in phono socket (LINE IN).

NOTE!

To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.

Slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Maintain that voltage for one second, then slowly turn it down again.

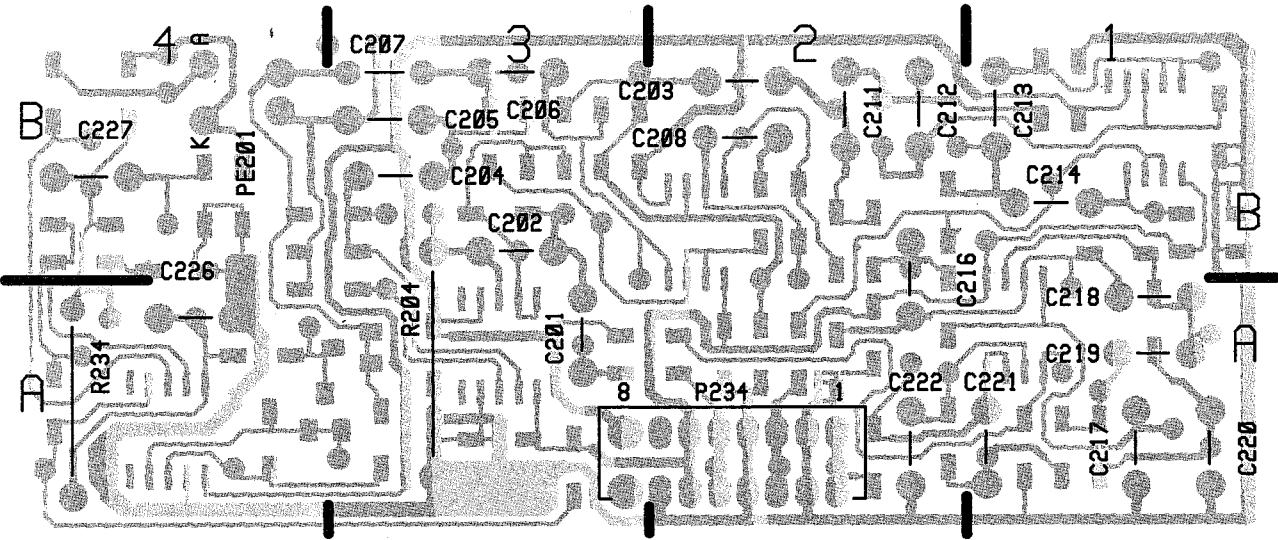
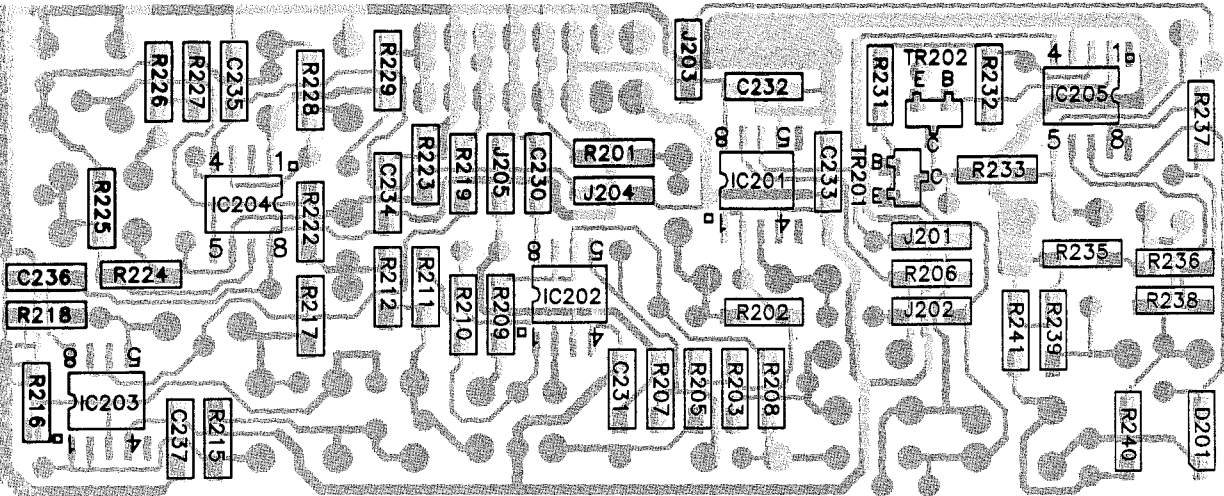
The diagram is a complex electronic circuit for a stereo system, organized into several functional blocks:

- 07 POWER LINK:** Includes a power link socket and associated wiring.
- 05 LINK SHIFT:** Features a phono input and a switch (S1) for signal routing.
- 06 STAND BY:** Contains a 40V-AC (1CON) transformer and a standby indicator circuit with transistors TR10, TR7, TR8, and TR11.
- 02 POWER SUPPLY:** A 50V power supply section with a transformer (P33-1) and various filter capacitors (C45, C46, C35, C34).
- 03 OUTPUT AMP.:** Two output amplifier sections using 1/2 IC3 STK 4231-V, driving speakers through a common-emitter configuration.
- 04 CROSS OVER NETWORK AND ABL:** A crossover network with treble and bass filters, including an ABL (Automatic Level Control) section.
- TREBLE and BASS AMPLIFIERS:** Dedicated amplifier sections for treble and bass frequencies, using IC201, IC203, IC204, and IC205.

The circuit uses a variety of components, including resistors (R1-R100), capacitors (C1-C100), transistors (TR1-TR10), and integrated circuits (IC1-IC5). Pin connections are labeled throughout the diagram, and a note at the bottom indicates "#=SMD" (Surface Mount Device).

SMD SURVEY

PCB 4, Crossover network and ABL



LIST OF ELECTRICAL PARTS PAGE 19-1

PCB 01, 8006038
Transformer

PCB 02, 8006047
Power Supply

PCB 04, 8006088*
Crossover network and ABL

PCB 05, 8006052
Line/Shift

51	136	138	250				

Resistors not referres to are standard, see page 3-12.
Δ indicates that static electricity may destroy the component.

F1-	7200085	Fuse holder, 2 pole					
F2	7200064	Fuse holder, 1 pole					

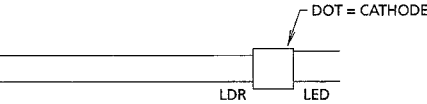
C9- C10	3340115	Gasket f. capacitor	C84 C130	4000287 4010105	220nF -20+80% 25V 1nF 10% 63V		
------------	---------	---------------------	-------------	--------------------	----------------------------------	--	--

IC201- IC204A	8341022	138	4558	IC205A	8341033	136	LF353
------------------	---------	-----	------	--------	---------	-----	-------

TR201- TR202	8320755	051	BC847B				
-----------------	---------	-----	--------	--	--	--	--

D201	8300482	250	LL4148				
------	---------	-----	--------	--	--	--	--

PE201	5210017	LDR/LED coupler					
-------	---------	-----------------	--	--	--	--	--



R204	5010062	68kΩ 5% 1/4W					
------	---------	--------------	--	--	--	--	--

C201- C202	4130306	100nF 10% 63V	C216 C217	4130265 4010105	10nF 10% 63V 1nF 10% 63V		
C203	4130308	220nF 10% 63V	C218	4130240	47nF 10% 63V		
C204	4130305	33nF 10% 63V	C221	4130265	10nF 10% 63V		
C205	4130264	68nF 10% 63V	C222	4010105	1nF 10% 50V		
C206- C207	4130306	100nF 10% 63V	C226	4130399	1uF 10% 63V		
C208	4130265	10nF 10% 63V	C227	4130234	470nF 10% 63V		
C211- C214	4010167	2.7nF 10% 100V	C230- C237	4010166	100nF -20+80% 50V		

P234	7210768	Socket, 8pole					
------	---------	---------------	--	--	--	--	--

* IMPORTANT!
Check if the coil (pos. 9011 in expl. view, page 20-1) is mounted in the set.
If the coil is mounted, use part no. 8006048.

S1	7400421	Switch					
----	---------	--------	--	--	--	--	--

P2	7210959	Socket, phono					
	2625028	Washer					

All other electrical parts are identical with the list of Electrical parts page 19-1.

Moduloversigt	1
Tekniske specifikationer	1
Diagrammer	2
Elektrisk stykliste	3
Mekanisk stykliste	4
Justeringer	5
Reparationstips	6
Isolationstest	7

Survey of modules	1
Technical specifications	1
Circuit diagrams	2
List of electrical parts	3
List of mechanical parts	4
Adjustments	5
Repair hints	6
Insulation test	7

[illegible]

Bang & Olufsen

Kommende tillæg indklæbes her.

Stick future supplements onto this page.

Tilføj kommende tillæg på de stiplede linier i indholdsfortegnelsen.

Add future supplements on the dotted lines of the table of contents.

Bang & Olufsen

Kommende tillæg indklæbes her.

Stick future supplements onto this page.

Tilføj kommende tillæg på de stiplede linier i indholdsfortegnelsen.

Add future supplements on the dotted lines of the table of contents.

Bang & Olufsen

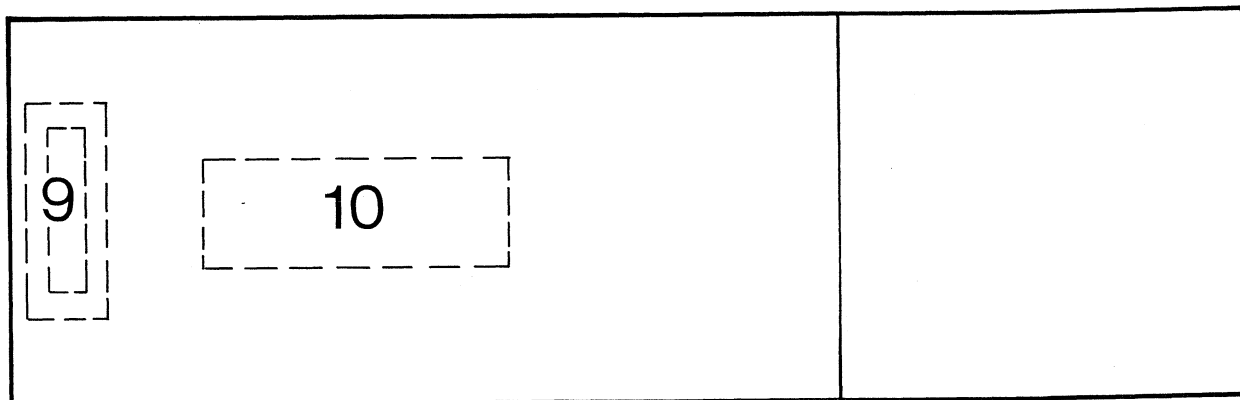
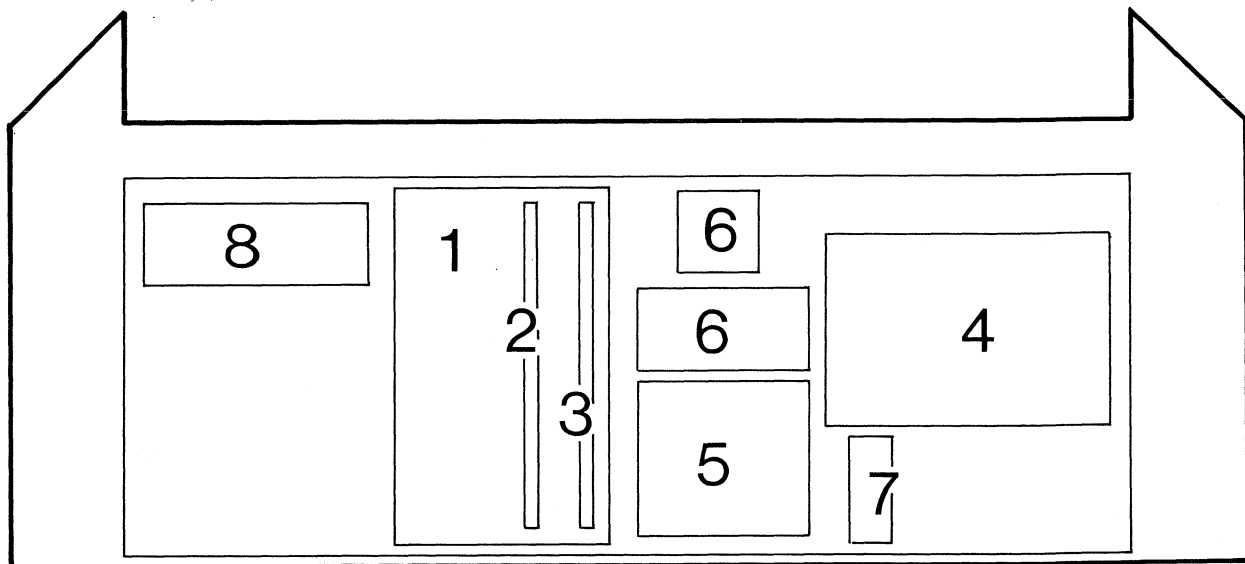
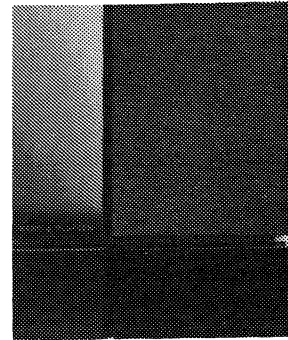
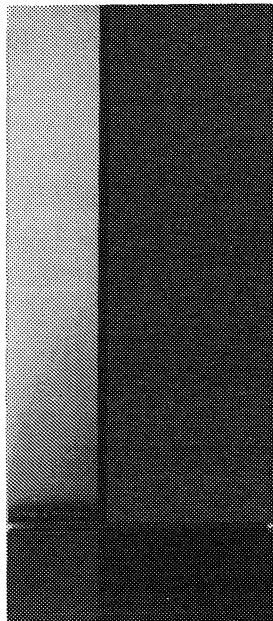
Kommende tillæg indklæbes her.

Stick future supplements onto this page.

Tilføj kommende tillæg på de stiplede linier i indholdsfortegnelsen.

Add future supplements on the dotted lines of the table of contents.

- 1 Power Supply
- 2 System Control
- 3 Microprocessor
- 4 Output Amplifier
- 5 Switch
- 6 Input Socket
- 7 NTC
- 8 Transformer
- 9 Stand by
- 10 Display
- 11 Crossover Network



TECHNICAL SPECIFICATIONS	BEOVOX 3000	BEOVOX 5000
Type	6716	6706
Dimensions W x H x D/Weight	45 x 38 x 8 cm/5 kg	45 x 85 x 8 cm/11 kg
	BEOLAB 3000	BEOLAB 5000
Type	6711-6712-6713-6714-6715	6701-6702-6703-6704-6705
Dimensions W x H x D/Weight	45 x 54 x 8 cm/9 kg	45 x 101 x 8 cm/15 kg
Long-term maximum input power	90 watts	120 watts
Maximum noise power	45 watts	60 watts
Impedance	8 ohms	8 ohms
Frequency range +4 -8 dB	75-20,000 Hz	60-20,000 Hz
Power at 94 dB SPL	5 watts	3.2 watts
Sensitivity 1 W	87 dB	89 dB
Distortion 250-6000 Hz	<1%	<0.2%
Cabinet principle	Bass Reflex	Bass Reflex
Woofers	5"-13 cm	2 units 5"-13 cm
Tweeter	1"-2.5 cm	1"-2.5 cm
Crossover frequency	3500 Hz	3500 Hz
Net. volume	5.4 litres	14 litres

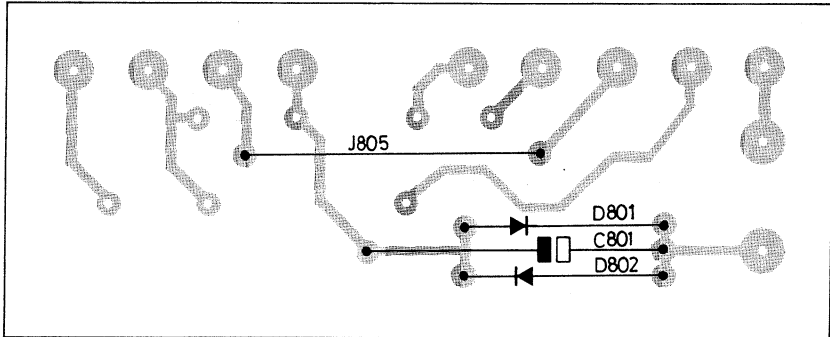
POWER AMPLIFIER

Long-term maximum output power	90 watts	90 watts
Harmonic distortion THD	<0.1%/55 watts 20-20,000 Hz	<0.1%/55 watts 20-20,000 Hz
Frequency range +0 -1 dB	40-20,000 Hz	40-20,000 Hz
Signal-to-noise ratio:		
A-weighted 1W	>80 dB	>80 dB
A-weighted max. power	>97 dB	>97 dB
Input sensitivity/impedance:		
Power Link sockets	1 V/47 kohms	1 V/47 kohms
Power Link channel separation	>66 dB	>66 dB
Speaker Link socket	11.3 - 16 - 22 V/>47 kohms	11.3 - 16 - 22 V/>47 kohms
Phono plug	1 V/33 kohms	1 V/33 kohms
Dynamic Bass Equalizer	4-0 dB	4-0 dB
Channel switch	L-R	L-R
Stand by function	Automatic or Manual ON-OFF	Automatic or Manual ON-OFF
Power supply	220 (100-120-240) volts	220 (100-120-240) volts
Power consumption	Max. 130 watts	Max. 130 watts
Stand by	2.6 watts	2.6 watts

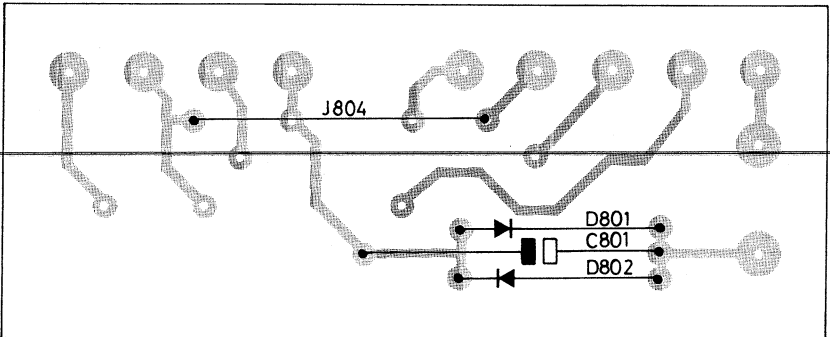
Subject to change without notice

Wiring of Mains Transformer

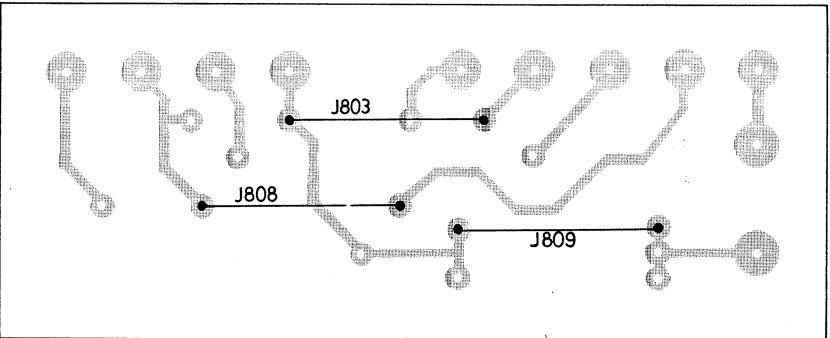
220V
Type 6701-6711



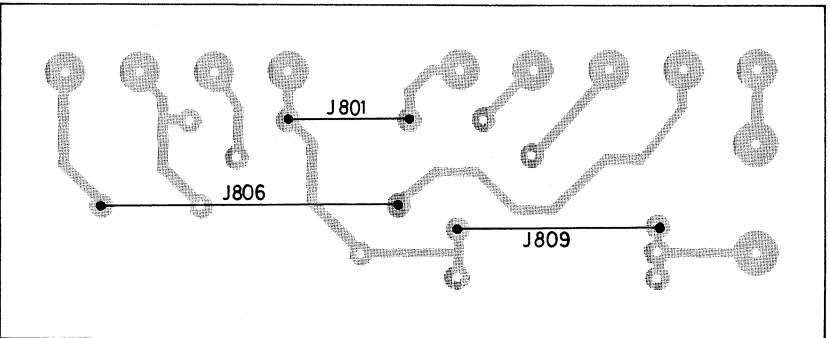
240V
Type 6702-6712 (GB)
Type 6705-6715 (AUS)



120V
Type 6703-6713 (US)



100V
Type 6704-6714 (JAP)



DIAGRAMFORKLARING

På diagrammerne er der angivet typenumre på transistorer og IC'er. Hvis positionsnummeret er efterfulgt af en stjerne, skal reservedelsnummeret altid benyttes, da denne komponent er specielt udvalgt, f.eks. TR102*.

Styrekredsløb

I visse styrekredsløb er den aktive tilstand angivet med en funktions- eller bogstavsangivelse. Denne kan eksempelvis være ST.BY. = »low« i stand-by-stilling eller ST.BY. = »high« i stand-by-stilling.

Forsyningsspændinger

Alle forsyningsspændinger i diagrammerne er angivet med en pil og en spændingsangivelse.

Eksempel:

Ved siden af spændingsangivelsen står der f.eks. 7 CON. Dette betyder, at den pågældende forsyningsspænding går til 7 steder på den pågældende diagramside (7 CON. = 7 connections).

EXPLANATION OF DIAGRAM

Type numbers of transistors and ICs are indicated on the diagrams. If the position number is followed by an asterisk the spare part number must always be used because the component in question has been specially selected, e.g. TR102*.

Control Circuit

In certain control circuits the active mode is indicated by a function term or by an abbreviation. This may be e.g. ST.BY. = low in the stand-by mode or ST.BY. = high in the stand-by mode.

Supply Voltages

All supply voltages in the diagrams are indicated by an arrow and a voltage indication.

Example:

“7 CON.” This means that the supply voltage in question goes to 7 different places on the diagram page in question (7 CON. = 7 connections).

SYMBOL FOR SIKKERHEDSKOMPONENTER



Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

MÅLEBETINGELSER

Alle DC-spændinger er målt i forhold til stel med et voltmeter med en indgangsmodstand på 10 Mohm.

DC-spændingerne er opgivet i volt (V), f.eks. 0,7 V.

SYMBOL OF SAFETY COMPONENTS



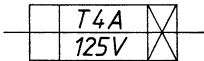
When replacing components with this symbol, components with identical part numbers must be used. The new component must be mounted in the same way as the one replaced.

MEASURING CONDITIONS

All DC voltages have been measured in relation to ground with a voltmeter with an input resistance of 10 Mohms.

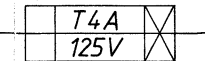
The DC voltages are stated in volts (V), e.g. 0.7 V.

EXPLANATION DE SYMBOLES DU FUSIBLE UTILISES DANS L'APPAREIL



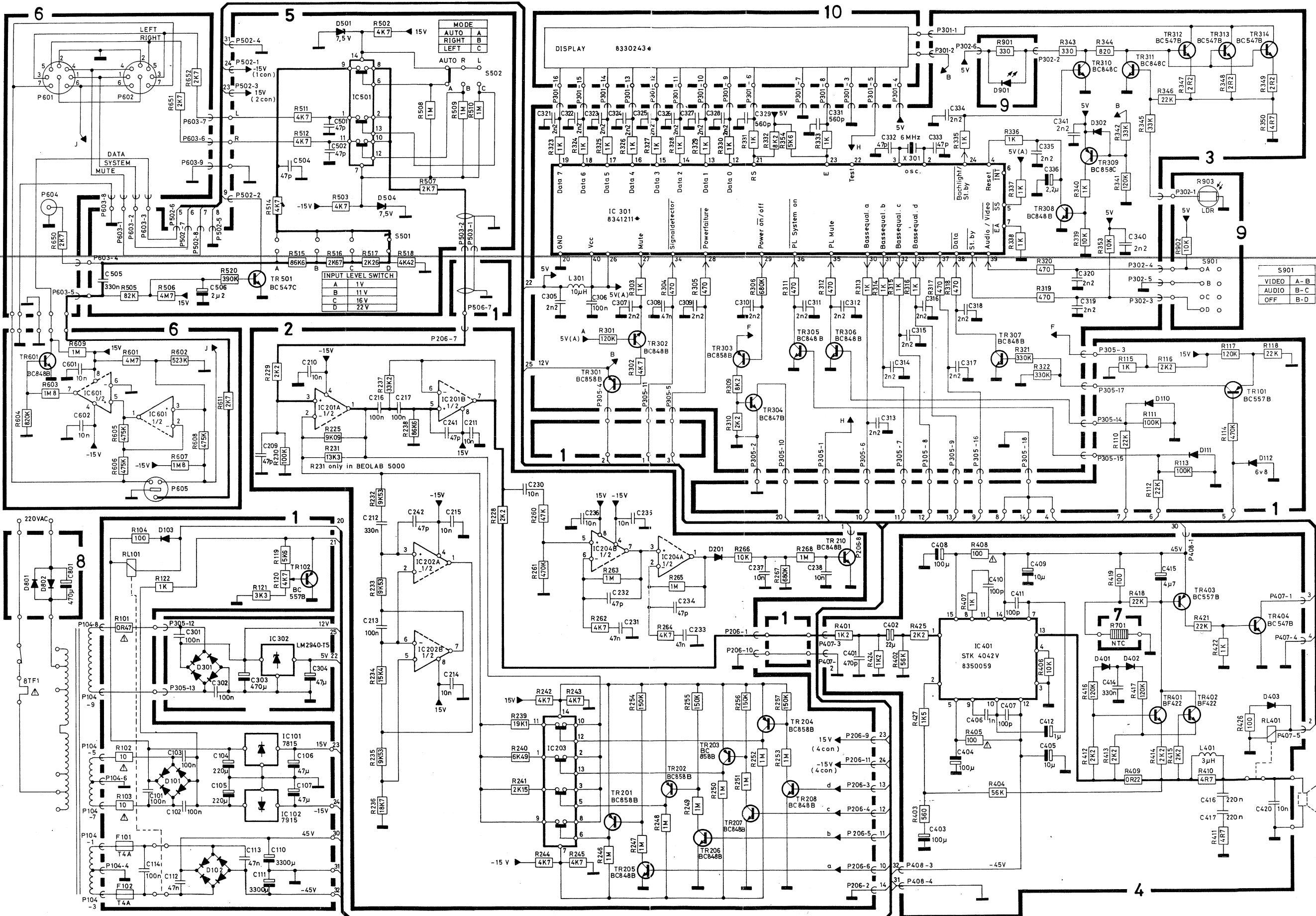
Remplacer par un fusible retardé de la même type et de 4 ampères 125 volts.

EXPLANATION OF THE FUSE SYMBOLS USED IN THE SET



Replace with the same type of 4 amperes 125 volts slow acting fuse.

DIAGRAM



LIST OF ELECTRICAL PARTS

20	49	51	102	105	123	136	138
206	209	250					

Resistors not referred to are standard, see page 3-2

PCB 1, 8001037 Power Supply

IC101	8340064	105	LM 340T-15				
IC102	8340240	123	MC 7915 CT				
TR101-102	8320503	20	BC 557B				
D101	8300466		B125 C1500	D110-111	8300058	209	1N 4148
D102	8300487		KBU 6D	D112	8300154	209	ZPD 6.8V
D103	8300058	209	1N 4148				
R101	5020684	0.47 Ω	10% 0.4W				
R102-103	5020489	10 Ω	10% 0.3W				
R120	5370324	4.7 kΩ	20% 0.1W				
C101-103	4130230	100 nF	20% 63V	C110-111	4200799	3300 μF	20% 50V
C104-105	4200311	220μF	-10+100% 40V	C112-113	4130087	47 nF	10% 250V
C106-107	4201087	47 μF	-10+100% 40V	C114	4130103	100 nF	20% 250V
RL101	7600069	Relay	24V				
F101-102	6600068	Fuse	4AT f/6701-02-05-11-12-15				
F101-102	6600094	Fuse	4AT f/6703-04-13-14				
	7200085	Socket					
P104	7220743	Plug	9/8 pole				
P105	7220321	Plug	18/18 pole				
P106	7220250	Plug	11/11 pole				

PCB 2, 8001033 System Control

IC201-202	8341022	138	4558	IC203	8341024	138	4066
				IC204	8341022	138	4558
TR201-204	8320616	51	BC 858B	TR210	8320615	51	BC 848B
TR205-208	8320615	51	BC 848B				
D201	8300482	250	LL 4148				
R225	5021023	9.09 kΩ	1% 1/4W	R236	5020034	18.7 kΩ	1% 1/4W
R231	5020095	13.3 kΩ	1% 1/4W	R237	5020083	33.2 kΩ	1% 1/4W
R232-233	5020229	9.53 kΩ	1% 1/4W	R238	5020099	86.6 kΩ	1% 1/4W
R234	5020343	15.4 kΩ	1% 1/4W	R239	5020337	19.1 kΩ	1% 1/4W
R235	5020229	9.53 kΩ	1% 1/4W	R240	5020590	6.49 kΩ	1% 1/4W
				R241	5020764	2.15 kΩ	1% 1/4W

C209	4000293	47 pF	5% 50V	C230	4010176	10 nF	-20+80% 50V
C210-211	4010176	10 nF	-20+80% 50V	C231	4010209	47 nF	10% 50V
C212	4130309	330 nF	10% 63V	C232	4000293	47 pF	5% 50V
C213	4130261	100 nF	5% 63V	C233	4010209	47 nF	10% 50V
C214-215	4010176	10 nF	-20+80% 50V	C234	4000293	47 pF	5% 50V
C216-217	4130261	100 nF	5% 63V	C235-238	4010176	10 nF	-20+80% 50V
				C241-242	4000293	47 pF	5% 50V

PCB 3, 8001032 Microprocessor

IC301*Δ	8341211	136	80C50	IC302	8341163	105	LM 2940CT-5
	3302423		Screen				
TR301	8320616	51	BC 858B	TR309	8320778	51	BC 858C
TR302	8320615	51	BC 848B	TR310-311	8320747	51	BC 848C
TR303	8320616	51	BC 858B	TR312-314	8320497	20	BC 547B
TR304	8320755	51	BC 847B				
TR305-308	8320615	51	BC 848B				
D301	8300466		B125 C1500				
D302	8300482	250	LL 4148				

C301-302	4010166	100 nF	-20+80% 50V	C329	4000325	560 pF	5% 50V
C303	4200522	470 μF	-20+50% 16V	C331	4000325	560 pF	5% 50V
C304	4201087	47 μF	-10+100% 40V	C332-333	4000293	47 pF	5% 50V
C305	4010170	2.2 nF	10% 50V	C334-335	4010170	2.2 nF	10% 50V
C306	4010166	100 nF	-20+80% 50V	C336	4200517	2.2 μF	20% 50V
C307	4010170	2.2 nF	10% 50V	C340-341	4010170	2.2 nF	10% 50V
C308	4010209	47 nF	10% 50V				
C309-328	4010170	2.2 nF	10% 50V				

L301	8020552	Coil	10 μH 10%				
X301	8090009	Crystal	6.0 MHz				
P301	7210723	Socket	16 pole	P305	7210110	Socket	11/11 pole
P302	7220470	Plug	6 pole	P315	7210289	Socket	7/7 pole

IC401	8350059		STK4042V				
TR401-402	8320505	49	BF 422	TR403	8320503	20	BC 557B
				TR404	8320497	20	BC 547B

D401-403	8300058	209	1N 4148				
R405	5020159	100 Ω	10% 0.3W	R410-411	5010765	4.7 Ω	5% 1/2W
R408	5020159	100 Ω	10% 0.3W				
R409	5100302	0.22 Ω	10% 2W				

C401	4010128	470 pF	10% 63V	C410	4000243	100 pF	5% 63V
C402	4200672	22μF	20% 16V	C411	4000292	100 pF	5% 50V
C403	4200129	100μF	-20+50% 16V	C412	4200512	1 μF	20% 50V
C404	4200368	100μF	-10+100% 63V	C414	4130236	330 nF	20% 63V
C405	4000342	10 μF	-10+50% 63V	C415	4200515	4.7 μF	20% 25V
C406	4010132	1 nF	10% 50V	C416-417	4130233	220 nF	20% 63V
C407	4000292	100 pF	5% 50V	C420	4130109	10 nF	10% 250V
C408	4200368	100μF	-10+100% 63V				
C409	4200342	10 μF	-10+50% 63V				

L401	6850165	Coil	3 μH				
RL401	7600095	Relay	12V				
P407	7220469	Plug	5 pole	P408	7220793	Plug	4/3 pole

Δindicates that static electricity may destroy the component

*Specially selected or adapted sample

PCB 5, 8001039 Switch

IC501Δ	8340202	102	MC 14066 BCP			
TR501	8320679	20	BC 548C			
D501	8300496	209	ZPD 7.5V	D504	8300496	209 ZPD 7.5V
R515	5020099	86.6 kΩ	1% 1/4W	R517	5020923	2.26 kΩ 1% 1/4W
R516	5020203	2.67 kΩ	1% 1/4W	R518	5020770	4.42 kΩ 1% 1/4W
C501-502	4000137	47 pF	5% 63V	C505	4130309	330 nF 10% 63V
C504	4000137	47 pF	5% 63V	C506	4200847	2.2 μF 20% 50V
S501	7400371	Switch		S502	7400372	Switch
P502	7220700	Plug 8 pole		P503	7220134	Plug 2/2 pole

PCB 6, 8001041 Input Socket

IC601	8340996	138	LM 1458			
TR601	8320615	51	BC 848B			
R602	5011733	523 kΩ	1% 1/8W	R608	5011732	475 kΩ 1% 1/8W
R605-606	5011732	475 kΩ	1% 1/8W			
C601-602	4010176	10 nF	-20+80% 50V			
P601-602	7210695	DIN-socket	8 pole	P604	7210306	Phonosocket
P603	7220702	Plug 9 pole		P605	7210521	Loudspeakersocket 4 pole

PCB 7, 8001038 NTC

R701	5220036	NTC 330 kΩ	10% 1/2W
------	---------	------------	----------

PCB 8, 8013445 Transformer

D801-802	8300023	209	1N 4002
C801	4200677	470 μF	-10+50% 6.3V
	7530101	Contact pin	
TF1	6609034	Thermofuse	
	6609024	Thermofuse only f/Canada	

PCB 9, 8001067 Stand by

D901	8330001	206	CQV 10-5 LED red
R903	5210006	LDR 3.3 kΩ	33%

PCB 10, 8330243 Display

--	--	--	--

PCB 11, 8006030 Crossover Network

R1	5100368	22 Ω	5% 6W	R3	5100349	15 Ω	5% 3W
R2	5100350	4.7 Ω	5% 3W				
C1	4200679	15 μF	10% 35V	C4	4130426	0.33 μF	5% 100V
C2	4200687	10 μF	10% 35V	C5	4130425	3.3 μF	5% 100V
C3	4130425	3.3 μF	5% 100V				
S1	6609027	PTC switch					
	7500124	Contact pin					

Δindicates that static electricity may destroy the component

Standard Resistors: Resistors 5% 1/4 W

	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0	5010592	5010506	5010065	5010040	5010059	5010049	5010054	5010638
1.2		5010595	5010128	5010153	5010046	5010047	5010665	
1.5	5011348	5010468	5010057	5010247	5010053	5010063	5010093	
1.8		5010822	5010362	5010066	5010135	5010072	5010791	
2.2	5010682	5010448	5010092	5010064	5010079	5010120	5010245	
2.7	5010925	5010403	5010000	5010298	5010141	5010083	5010431	
3.3		5010253	5010044	5010076	5010075	5010117	5010848	
3.9	5011377	5010622	5010070	5010069	5010060	5010073	5010714	
4.7	5010888	5010411	5010058	5010048	5010045	5010077	5011513	
5.6	5010706	5010151	5010067	5010041	5010061	5010071	5010658	
6.8	5010904	5010039	5010144	5010052	5010062	5010074		
8.2	5010880	5010056	5010068	5010154	5010091	5010505		

Resistors 5% 1/8 W

	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0		5011464	5011357	5010816	5010935	5011440	5011459	5020875
1.2		5011351	5011084	5011442	5011338	5011341	5011175	
1.5		5011463	5011443	5011178	5011364	5011398	5011460	
1.8		5011350	5011361	5011344	5011468	5011369	5011342	
2.2	5011032	5011376	5010886	5011353	5010833	5011369	5011342	
2.7		5011471	5011355	5011362	5011366	5011370	5011478	
3.3			5011337	5010827	5011346	5011371	5011462	
3.9		5011438	5011157	5011457	5011457	5011372	5020876	
4.7	5011363	5011038	5011441	5011363	5010937	5011343	5011611	
5.6		5011412	5011358	5010885	5011166	5011340		
6.8		5011356	5011336	5010839	5011367	5011458		
8.2		5011466	5011354	5011339	5011368	5011373		

Resistors SMD 2% 1/8 W SMD 5% 1/8 W

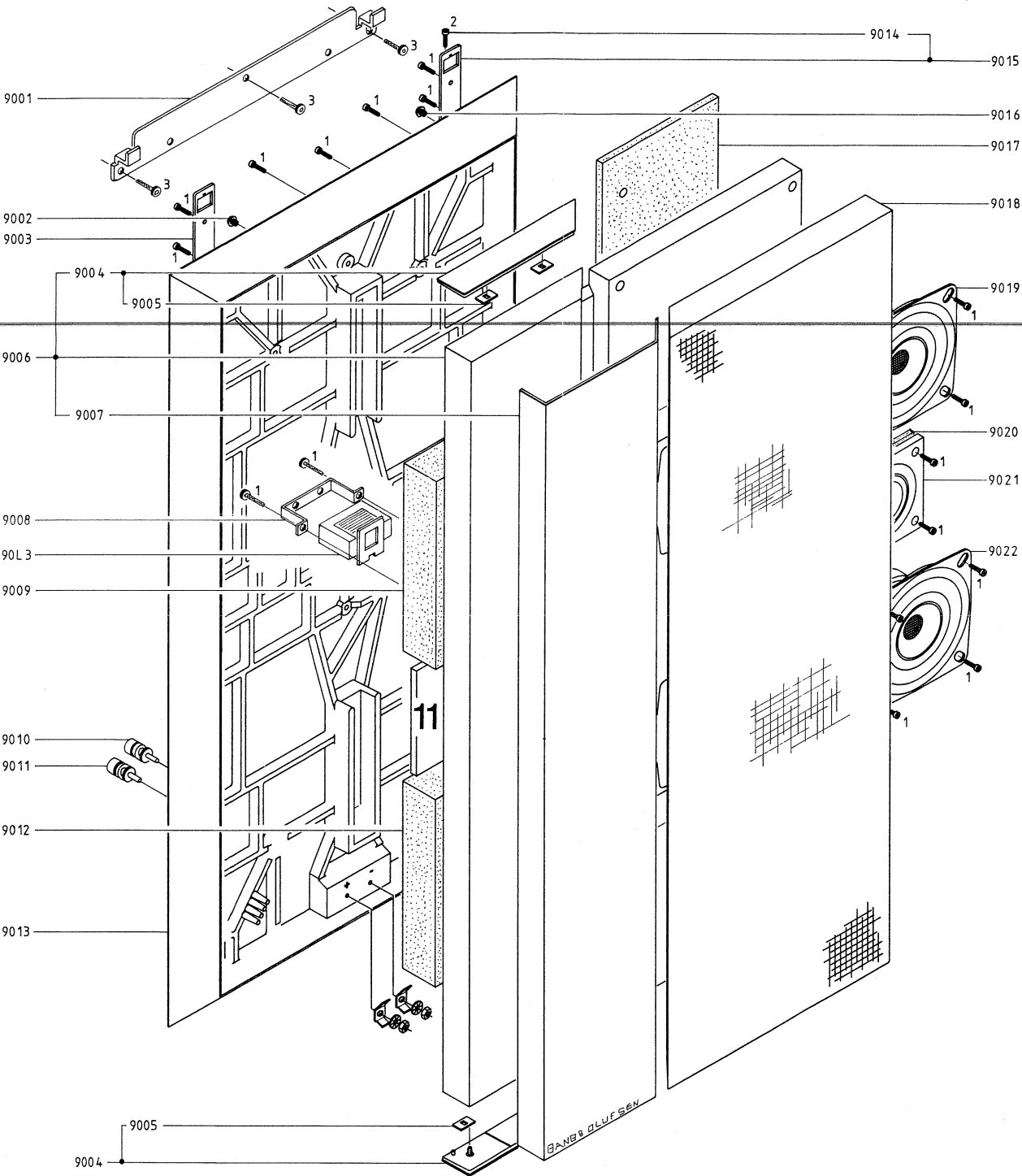
	5%	2%	2%	2%	2%	2%	5%	5%
	x1	x10	x100	x1K	x10K	x100K	x1M	x10M
1.0	5011623	5011647	5011218	5011227	5011241	5011256	5011267	5011730
1.1	5011624	5011648	5011669	5011681	5011689	5011694	5011707	
1.2	5011625	5011649	5011219	5011682	5011490	5011257	5011708	
1.3	5011626	5011650	5011670	5011683	5011242	5011258	5011709	
1.5	5011627	5011651	5011220	5011228	5011243	5011259	5011710	
1.6	5011628	5011652	5011671	5011684	5011690	5011695	5011711	
1.8	5011629	5011653	5011672	5011229	5011244	5011260	5011712	
2.0	5011630	5011654	5011673	5011685	5011691	5011696	5011713	
2.2	5011216	5011655	5011674	5011230	5011245	5011261	5011714	
2.4	5011634	5011656	5011675	5011686	5011246	5011697	5011715	
2.7	5011635	5011657	5011497	5011231	5011247	5011262	5011716	
3.0	5011731	5011658	5011499	5011500	5011692	5011698	5011717	
3.3	5011217	5011659	5011676	5011232	5011248	5011263	5011718	
3.6	5011636	5011660	5011677	5011687	5011249	5011264	5011719	
3.9	5011637	5011661	5011221	5011233	5011491	5011699	5011720	
4.3	5011638	5011662	5011498	5011688	5011492	5011700	5011721	
4.7	5011639	5011269	5011222	5011234	5011250	5011265	5011722	
5.1	5011640	5011663	5011678	5011235	5011493	5011701	5011723	
5.6	5011641	5011664	5011223	5011236	5011251	5011702	5011724	
6.2	5011642	5011665	5011224	5011237	5011693	5011703	5011725	
6.8	5011643	5011666	5011225	5011238	5011252	5011704	5011726	
7.5	5011644	5011667	5011679	5011239	5011253	5011705	5011727	
8.2	5011645	5011270	5011226	5011240	5011254	5011266	5011728	
9.1	5011646	5011668	5011680	5011489	5011255	5011706	5011729	

(Glue dots, approx. 200, part no. 3181932).

LIST OF MECHANICAL PARTS

Beovox/Beolab 5000

The illustration shows the left loudspeaker



Beovox/Beolab 5000

Survey of screws

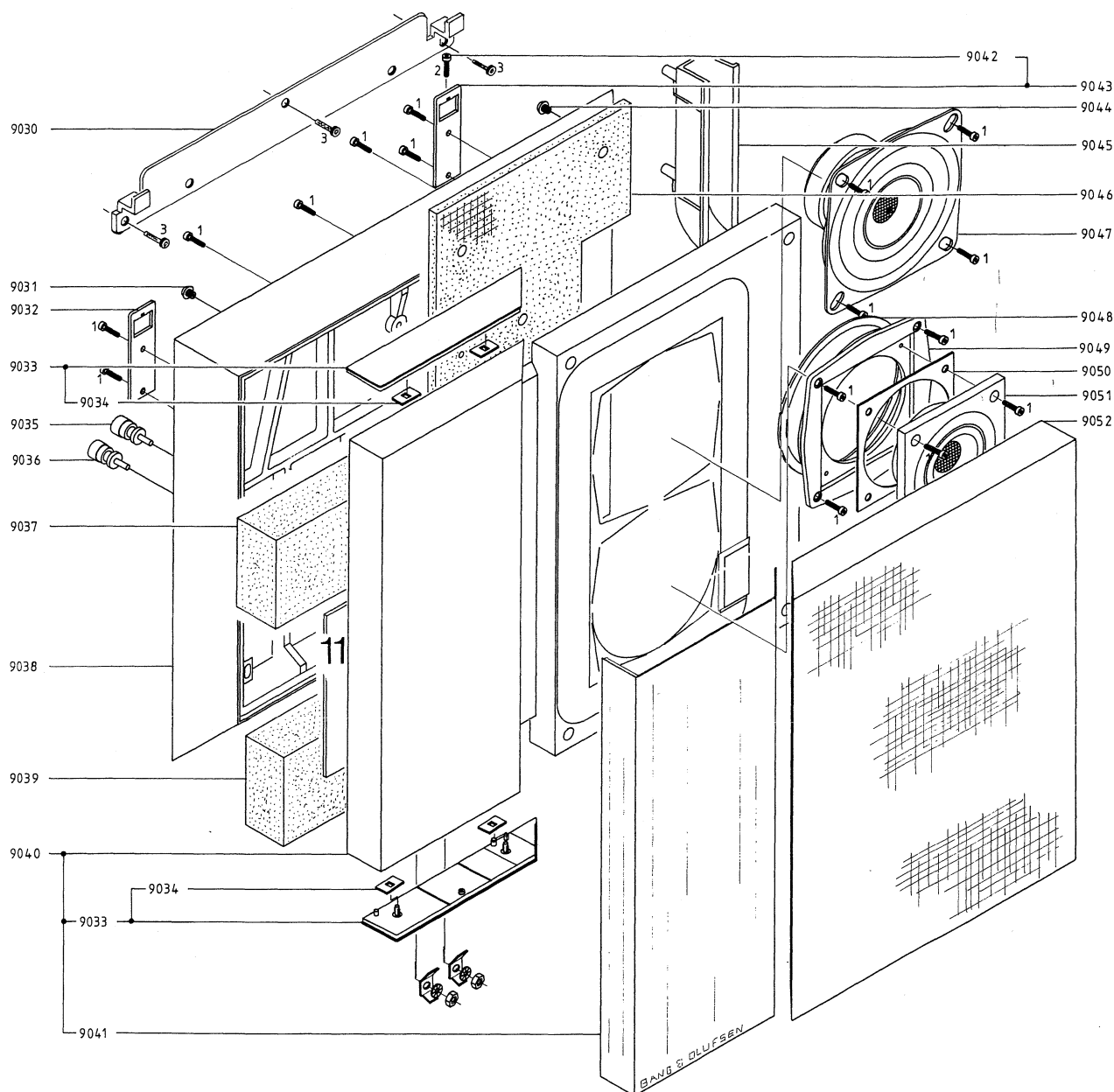
Beovox/Beolab 3000

Survey of screws

11 Modul8006030 Crossover Network			
9001	3031198	Wall bracket	
9002	3035032	Rubber foot	
9003	3031199	Fitting	
9004	3456184	End pieces, top-bottom	
9005	2395019	Spring leaf	
9006	3440113	Baffle w/cover and end pieces, left	
	3440112	Baffle w/cover and end pieces, right	
9007	3302454	Cover, left	
	3302451	Cover, right	
9008	2510151	Clamp	
9009	3922042	Damping material	
9010	7210596	Terminal screw, black	
9011	7210595	Terminal screw, red	
9012	3922042	Damping material	
9013	3430419	Cabinet	
9014	2042036	Screw 4x16 mm	
9015	3031199	Fitting w/screw	
9016	3035032	Rubber foot	
9017	3922033	Damping material	
9018	3450792	Cloth front, blue	
	3450916	Cloth front, grey	
	2391083	Locking piece, rubber	
9019	8480211	Woofers 5"	
9020	3340051	Packing	
9021	8480209	Tweeter 1"	
9022	8480211	Woofers 5"	
90L3	6850186	Coil 6.8 mH	
	6276089	Wires, assembled	
1	2019018	Screw 4x16 mm	
2	2042036	Screw 4x16 mm	
3	2018000	Screw 4.2x25 mm	
	3390373	Bag w/screws and Rawlplugs	
11 Modul8006030 Crossover Network			
9030	3031198	Wall bracket	
9031	3035032	Rubber foot	
9032	3031199	Fitting	
9033	3456184	End pieces, top-bottom	
9034	2395019	Spring leaf	
9035	7210596	Terminal screw, black	
9036	7210595	Terminal screw, red	
9037	3922041	Damping material	
9038	3430420	Cabinet	
9039	3922041	Damping material	
9040	3440115	Baffle w/cover and end pieces, left	
	3440114	Baffle w/cover and end pieces, right	
9041	3302455	Cover, left	
	3302452	Cover, right	
9042	2042036	Screw 4x16 mm	
9043	3031199	Fitting w/screw	
9044	3035032	Rubber foot	
9045	3458646	Woofers port	
9046	3922033	Damping material	
9047	8480210	Woofers 5"	
9048	3340076	Packing	
9049	3014083	Adaptor	
9050	3340051	Packing	
9051	8480209	Tweeter 1"	
9052	3450793	Cloth front, blue	
	3450915	Cloth front, grey	
	2391083	Locking piece, rubber	
	6276088	Wires, assembled	
1	2019018	Screw 4x16 mm	
2	2042036	Screw 4x16 mm	
3	2018000	Screw 4.2x25 mm	
	3390373	Bag w/screws and Rawlplugs	

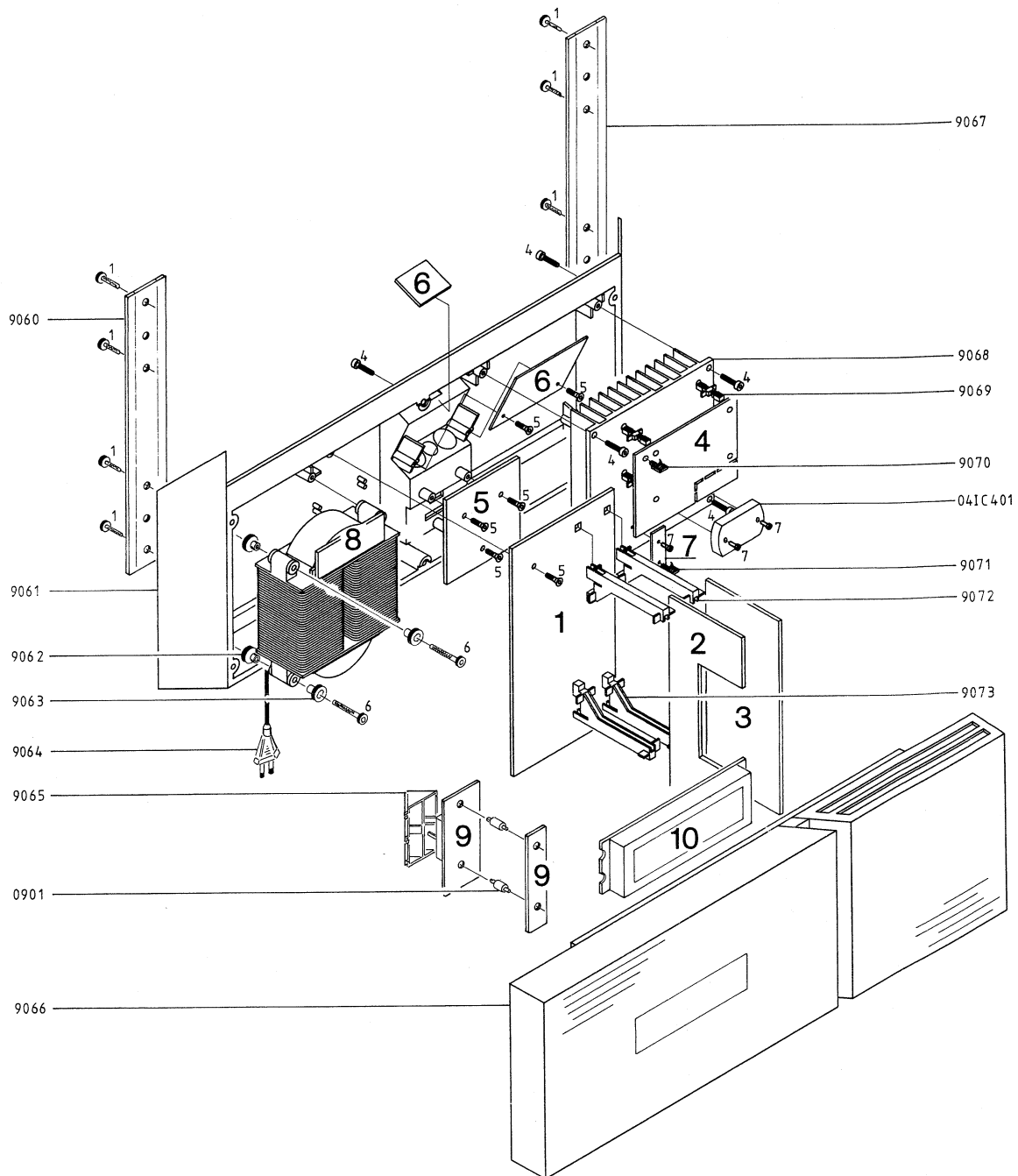
Beovox/Beolab 3000

The illustration shows the left loudspeaker



Power Amplifier

The illustration shows the right Power Amplifier



Power Amplifier

01Modul 8001037 PCB1, Power Supply

02Modul 8001033 PCB2, System Control

03Modul 8001032 PCB3, Microprocessor

04Modul 8001034 PCB4, Output Amplifier
041C401 8350059 STK 4042V

05Modul 8001039 PCB5, Switch

06Modul 8001041 PCB6, Input Socket

07Modul 8001038 PCB7, NTC

08Modul 8013445 PCB8, Transformer

09Modul 8001067 PCB9, Stand-by
0901 3152537 Spacer

10Modul 8330243 PCB10, Display

9060 3031197 Fitting
9061 3452626 Rear part, right
3452627 Rear part, left
9062 2938154 Bushing
9063 2938154 Bushing
9064 6270425 Mains cable type 6701-02-11-12
6270424 Mains cable type 6703-13
6270423 Mains cable type 6704-14
6270426 Mains cable type 6705-15
9065 2776150 Switch cover, right
2776151 Switch cover, left
9066 3458698 Front panel, assembled
9067 3031197 Fitting
9068 3358239 Heat sink
9069 3152638 Spacer
9070 3152561 Cable holder
9071 3152561 Cable holder
9072 3152254 Holder f/PCB
9073 3152254 Holder f/PCB

To P302 6275985 Wire bundle
To P407 6275872 Wire bundle
To P408 6275879 Wire bundle
To P502 6275871 Wire bundle
To P503 6275892 Wire bundle
To P603 6275870 Wire bundle

Survey of screws

1 2019018 Screw 4x16 mm
4 2015133 Screw 3.5x16 mm
5 2015134 Screw 3.5x10 mm
6 2015135 Screw 3.5x30 mm
7 2013157 Screw 2.9x16 mm

PACKING

Beovox 3000

3397672	Foam end pieces, top
3397672	Foam end pieces, bottom
3390363	Foam foil
3397059	Outer carton

Beolab 3000

3397672	Foam end pieces, top
3397672	Foam end pieces, bottom
3390362	Foam foil
3392058	Outer carton

Beovox 5000

3397672	Foam end pieces, top
3397672	Foam end pieces, bottom
3397671	Middle section, top-bottom
3397692	Foam insert
3392104	Cardboard insert
3390361	Foam foil
3392057	Outer carton

Beolab 5000

3397672	Foam end pieces, top
3397672	Foam end pieces, bottom
3397671	Middle section, top-bottom
3392104	Cardboard insert
3390360	Foam foil
3392056	Outer carton

OWNER's MANUALS

Beovox 3000/5000

3506155	Danish
3506156	Swedish
3506157	Finnish
3506158	English
3506159	German
3506160	Dutch
3506161	French
3506162	Italian
3506163	Spanish

Beolab 3000/5000

3506135	Danish
3506136	Swedish
3506137	Finnish
3506138	English
3506139	German
3506140	Dutch
3506141	French
3506143	Italian
3506144	Spanish

ACCESSORIES

6270167	2-pin DIN speaker cable – 5 m
6270336	4-pin DIN shielded speaker cable – 5 m
6270352	4-pin DIN shielded speaker cable – 10 m
6270417	8-pin DIN Power Link cable – 2.5 m
6270418	8-pin DIN Power Link cable – 5 m
6270419	8-pin DIN Power Link cable – 10 m
6270350	2-pin DIN shielded speaker cable – 5 m
8960318	BLC 150, blue line cord
8960329	GLC 150, grey line cord
7229075	Adaptor for Power Link – 8-pin DIN female/8-pin DIN female
8960280	Cable Cover 5000 metal finish – 0.85 m
8960290	Cable Cover 3000 metal finish – 1.30 m
2560232	Plastic cable cover 8x18 mm – 2.10 m
2560202	Plastic cable cover 10x46 mm – 2.10 m

JUSTERING

Display

DC voltmeter tilsluttes ben 5 på stik P301.
Med 1R120 justeres til $1,9\text{ V} \pm 0,1\text{ V}$.

ADJUSTMENT

Display

Connect DC voltmeter to pin 5 on plug P301.
Adjust with 1R120 to $1.9\text{ V} \pm 0.1\text{ V}$.

REPARATIONSTIPS

Sådan sættes omskifterne i den rigtige stilling

Nederst på bagsiden af Beolab 3000/5000 er der to knapper:

Indgangseffekt-knappen (den største af de to med 4 indstillingsmuligheder).

Mode-knappen (den mindste af de to med 3 indstillingsmuligheder).

Indgangseffekt-knappen

Sæt indgangseffekt-knappen i en stilling, der passer til radioens eller TV'ets udgangseffekt.

POWER LINK STIKDÅSE

Hvis Beolab 3000/5000 er tilsluttet via POWER LINK stikdåsen, er det lige meget, hvilken stilling indgangseffekt-knappen står i, da højttalerens lydniveau ikke påvirkes af knappens stilling.

SPEAKER LINK STIKDÅSE

Knappens stilling	Radioens/TV'ets udgangseffekt	
	4 ohm	8 ohm
—	- 40 W	- 20 W
==	40-80 W	20-40 W
===	80- W	40- W

LINE IN STIKDÅSE

Sæt knappen i stilling N.

Mode-knappen

Når Beolab 3000/5000 er tilsluttet lysnettet, er den i stand-by-stilling. Stand-by-stillingen indikeres af et lille rødt lys ved siden af displayet. Højttaleren tændes automatisk, når den modtager et signal, med mindre AUDIO/VIDEO/OFF-knappen står i stilling OFF.

Sæt mode-knappen i stilling A, R (højre) eller L (venstre):

Stikdåse	Mode-knappen
LINE IN	A
SPEAKER LINK	A
POWER LINK	L Venstre højttaler R Højre højttaler

Når det TV/den radio, som Beolab 3000/5000 er tilsluttet, går i stand-by, slukkes højttaleren automatisk – d.v.s. den går også i stand-by. Dette sker øjeblikkeligt, hvis højttaleren er tilsluttet ved hjælp af et Power Link kabel eller en skærmet 4-polet DIN højttalerledning. I alle andre tilfælde går Beolab 3000/5000 i stand-by efter ca. 3 minutter.

REPAIR TIPS

Setting the switches on the rear

On the lower rear side of the Beolab 3000/5000 there are two switches:

The input level switch (the longer of the two – 4 settings).

The mode switch (the shorter of the two – 3 settings).

Input level switch

Set the input level switch to the position required to match the output of receiver or TV set.

POWER LINK SOCKET

If you have connected a Beolab 3000/5000 via the POWER LINK socket, there are no requirements as to the setting of the input level switch, because the acoustic level is independent of the setting of the switch.

SPEAKER LINK SOCKET

Switch position	Receiver/TV output	
	4 ohm	8 ohm
—	- 40 W	- 20 W
==	40-80 W	20-40 W
===	80- W	40- W

LINE IN SOCKET

Set the switch to N.

Mode switch

Once connected to the mains supply, the Beolab 3000/5000 is in the stand-by mode. The stand-by mode is indicated by a red light next to the display. The speaker switches on automatically when it receives a signal, unless, of course the AUDIO/VIDEO/OFF switch is set to OFF.

Set the mode switch to either A, R (Right) or L (Left):

Sockets	Mode switch
LINE IN	A
SPEAKER LINK	A
POWER LINK	L Left speaker R Right speaker

When the TV set/receiver to which the Beolab 3000/5000 is connected goes into stand-by, the loudspeaker automatically switches itself off – i.e. reverts to the stand-by mode. This happens instantly if you have connected the speaker using a Power Link cable or a screened 4-pin DIN speaker cable. In all other cases the Beolab 3000/5000 goes into stand-by after a delay of approx. 3 minutes.

AUDIO/VIDEO/OFF-omskifter

For at opnå den rigtige status-udlæsning i displayet på højttaleren, skal AUDIO/VIDEO/OFF-omskifteren sættes i den rigtige stilling:

AUDIO	hvis Beolab 3000/5000 er tilsluttet en Beomaster, et Beocenter eller en MCL 2 A/2 AV.
VIDEO	hvis Beolab 3000/5000 er tilsluttet et Beovision.
OFF	slukket.

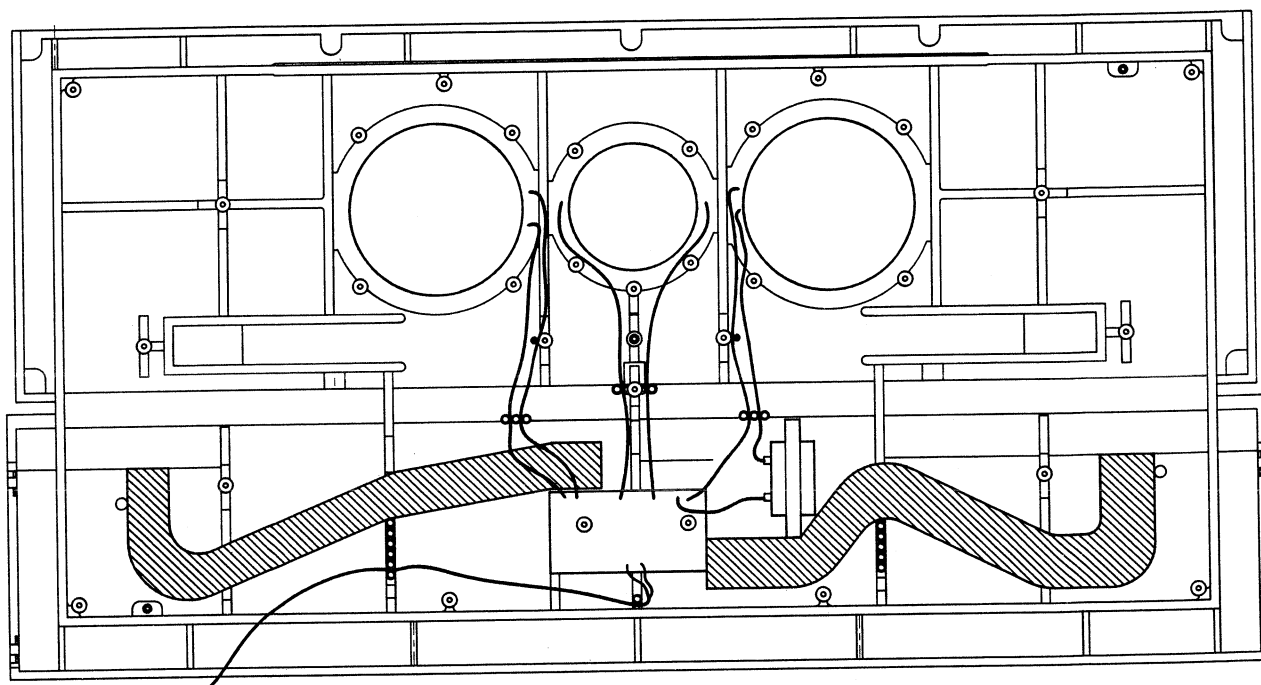
AUDIO/VIDEO/OFF switch

In order to obtain the right status reading from the display, the AUDIO/VIDEO/OFF switch must be set to the correct position:

AUDIO	if the Beolab 3000/5000 is connected to a Beomaster, Beocenter or MCL 2 A/2 AV.
VIDEO	if the Beolab 3000/5000 is connected to a Beovision.
OFF	off position.

Placering af dæmpemateriale og ledningsføring

Placement of damping material and wiring



Diskanthøjttaler

NB! Vær opmærksom på at diskanthøjttaleren let kan beskadiges, hvis højttaleren placeres med fronten nedad uden at stoframmen er monteret.

Tweeter

NB! Please note that the tweeter may easily be damaged, if you place the speaker with the front facing downwards and without the cloth front being fitted.

ISOLATIONSTEST

Ethvert apparat skal isolationstestes, efter at det har været adskilt. Testen udføres, når apparatet er samlet igen og er klar til udlevering til kunden.

Der må ikke forekomme overslag under testen!

Isolationstesten udføres på følgende måde:

De to stikben på netstikket kortsluttes og tilsluttes den ene af terminalerne på isolationstesteren. Den anden terminal tilsluttes stel på phono bøsningen (LINE IN).

OBS!

For at undgå beskadigelser af apparatet er det vigtigt, at begge terminaler på isolationstesteren har virkelig god kontakt.

Spændingsreguleringen på isolationstesteren drejes langsomt op, indtil en spænding på 1,5-2 kV er opnået. Her skal den holdes i ét sekund, hvorefter der langsomt drejes ned for spændingen igen.

INSULATION TEST

Each set must be insulation tested after having been dismantled. Make the test when the set has been reassembled and is ready to be returned to the customer.

Flashovers must not occur during the testing procedure!

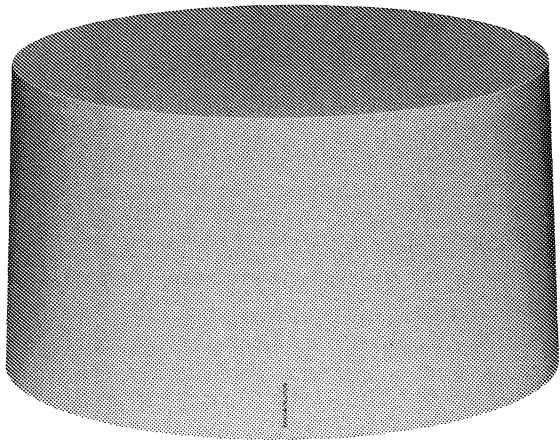
Make the insulation test as follows:

Short-circuit the two pins of the mains plug and connect them to one of the terminals of the insulation tester. Connect the other terminal to ground in phono socket (LINE IN).

NOTE!

To avoid damaging the set it is essential that both terminals of the insulation tester have good contact.

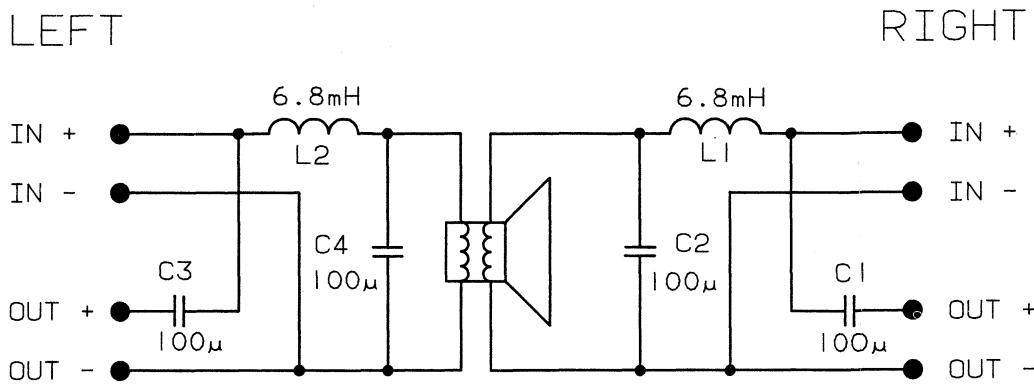
Slowly turn the voltage control of the insulation tester until a voltage of 1.5-2 kV is obtained. Maintain that voltage for one second, then slowly turn it down again.



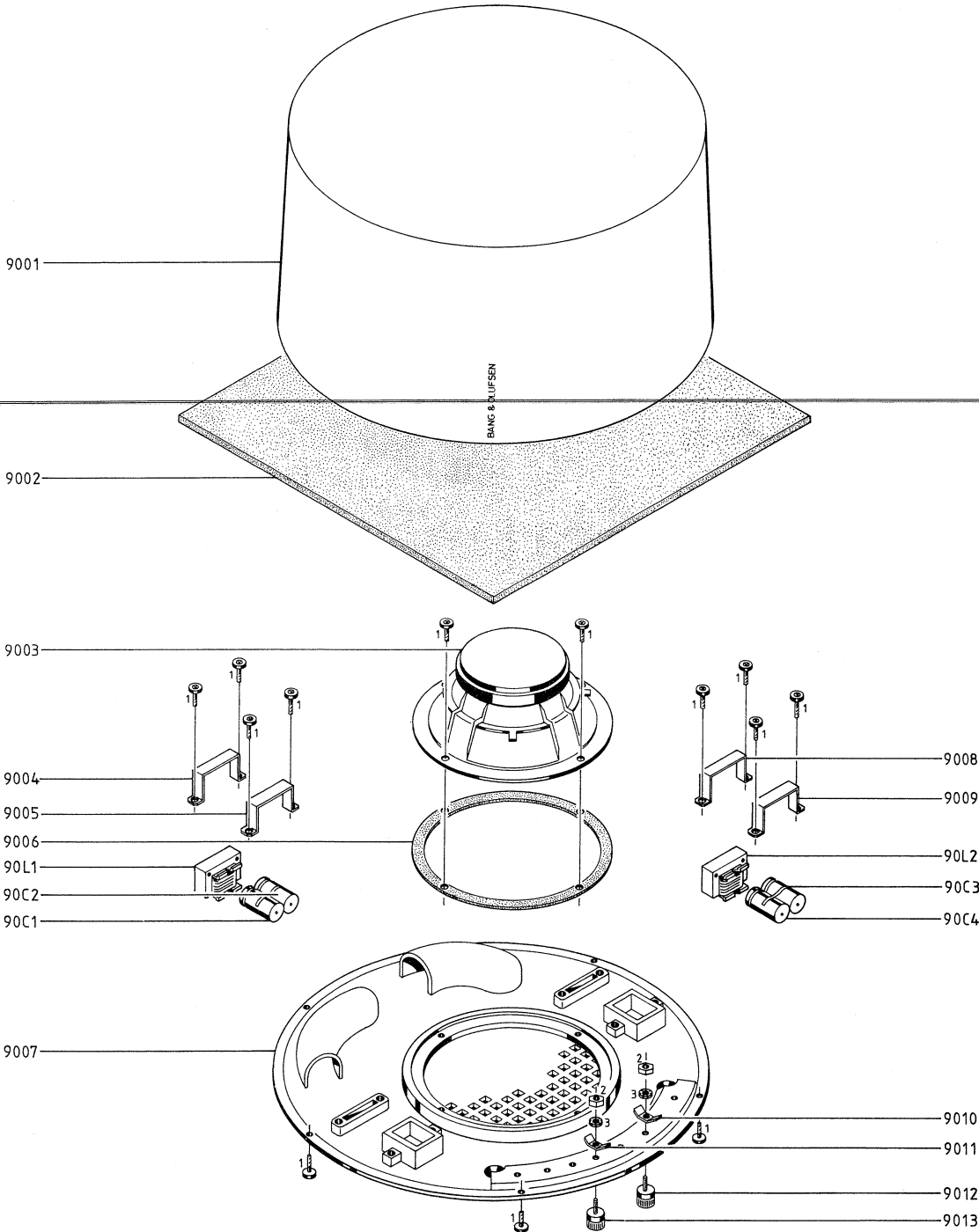
Beovox Cona
Type 6345

TECHNICAL SPECIFICATIONS	BEOVOX CONA
Type	6345
Long-term max. input power	125 Watts
Max. noise power	60 Watts
Impedance	6 ohms
Frequency range +4-8 dB	40-195 Hz
Power at 96 dB SPL	5 Watts
Sensitivity 1 W	89 dB
Cabinet principle	Bass Reflex
Woofer	20.5 cm - 8" Dual Voice Coil
Crossover frequency	175 Hz
Net. volume	25 litres
Dimensions D x H	43 x 27 cm
Weight	7.5 kg
Subject to change without notice	

DIAGRAM



SERVICE MANUAL



Beovox Cona

9001	3430527	Cabinet, white with foam tape
	3430528	Cabinet, black with foam tape
	3430529	Cabinet, grey with foam tape
9002	3922043	Damping material
9003	8480218	Woofer 8"
9004	2510151	Clamp
9005	2510151	Clamp
9006	3340079	Packing
9007	3440118	Baffle
9008	2510151	Clamp
9009	2510151	Clamp
9010	7500234	Contact pin
9011	7500234	Contact pin
9012	7210595	Terminal screw, red
9012	7210596	Terminal screw, black

90C1	4200453	Cond. 100 µF 20% 35 V
90C2	4200453	Cond. 100 µF 20% 35 V
90C3	4200453	Cond. 100 µF 20% 35 V
90C4	4200453	Cond. 100 µF 20% 35 V

90L1	6850163	Coil 6.8 mH
90L2	6850163	Coil 6.8 mH

Survey of screws,
washers and nuts

1	2019018	Screw 4x16 mm
2	2380016	Nut M4
3	2625003	Washer

Parts not shown

6276191	Cables complete
6270463	Loudspeaker cable, male, 5 m
6270476	Loudspeaker cable, female, 5 m
3392109	Outer carton
3397694	Foam
3917098	Foam foil
3506165	Installation guide
3947202	Foam tape (3x7 mm) by the meter

DIAGRAMFORKLARING

På diagrammerne er der angivet typenumre på transistorer og IC'er. Hvis positionsnummeret er efterfulgt af en stjerne, skal reservedelsnummeret altid benyttes, da denne komponent er specielt udvalgt, f.eks. TR102*.

Styrekredsløb

I visse styrekredsløb er den aktive tilstand angivet med en funktions- eller bogstavsangivelse. Denne kan eksempelvis være ST.BY. = »low« i stand-by-stilling eller ST.BY. = »high« i stand-by-stilling.

Forsyningsspændinger

Alle forsyningsspændinger i diagrammerne er angivet med en pil og en spændingsangivelse.

Eksempel:
Ved siden af spændingsangivelsen står der f.eks. 7 CON. Dette betyder, at den pågældende forsyningsspænding går til 7 steder på den pågældende diagramside (7 CON. = 7 connections).

EXPLANATION OF DIAGRAM

Type numbers of transistors and ICs are indicated on the diagrams.
If the position number is followed by an asterisk the spare part number must always be used because the component in question has been specially selected, e.g. TR102*.

Control Circuit

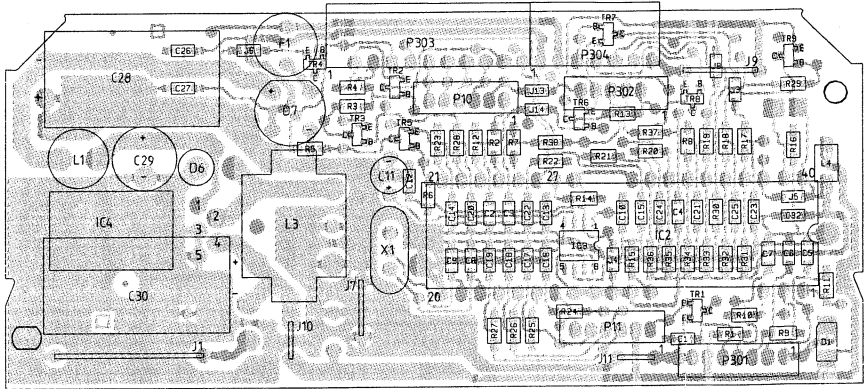
In certain control circuits the active mode is indicated by a function term or by an abbreviation. This may be e.g. ST.BY. = low in the stand-by mode or ST.BY. = high in the stand-by mode.

Supply Voltages

All supply voltages in the diagrams are indicated by an arrow and a voltage indication.

Example:
"7 CON.". This means that the supply voltage in question goes to 7 different places on the diagram page in question (7 CON = 7 connections).

PCB3, Microprocessor



SYMBOL FOR SIKKERHEDSKOMPONENTER



Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

MÅLEBETINGELSER

Alle DC-spændinger er målt i forhold til stel med et voltmeter med en indgangsmodstand på 10 Mohm.

DC-spændingerne er opgivet i volt (V), f.eks. 0,7 V.

SYMBOL OF SAFETY COMPONENTS



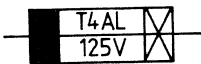
When replacing components with this symbol, components with identical part numbers must be used. The new component must be mounted in the same way as the one replaced.

MEASURING CONDITIONS

All DC voltages have been measured in relation to ground with a voltmeter with an input resistance of 10 Mohms.

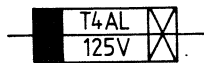
The DC voltages are stated in volts (V), e.g. 0.7 V.

EXPLANATION DE SYMBOLES DU FUSIBLE UTILISES DANS L'APPAREIL



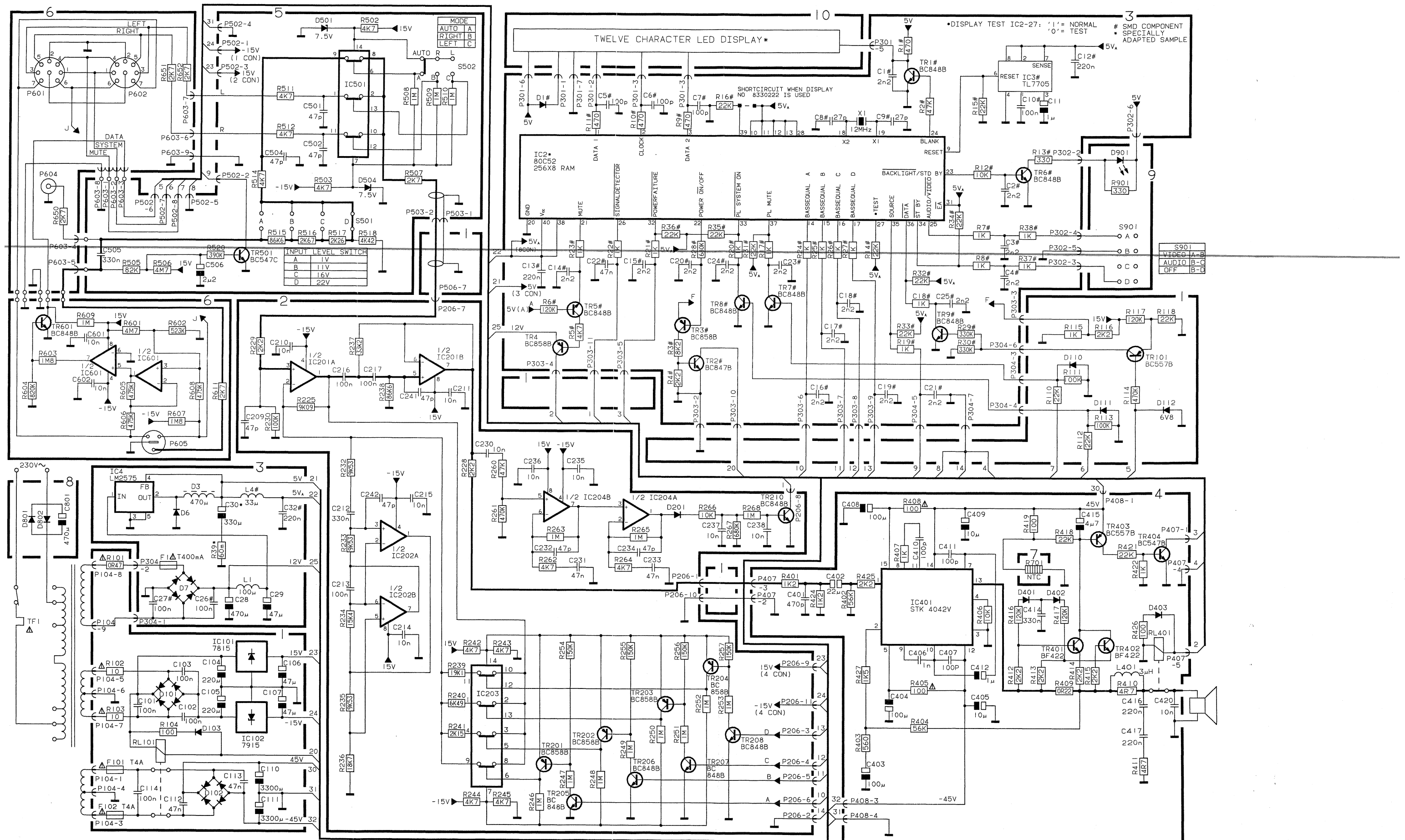
Remplacer par un fusible retardé de la même type et de 4 ampères 125 volts.

EXPLANATION OF THE FUSE SYMBOLS USED IN THE SET



Replace with the same type of 4 amperes 125 volts slow acting fuse.

DIAGRAM



Bang & Olufsen

Kommende tillæg indklæbes her.

Stick future supplements onto this page.

Tilføj kommende tillæg på de stiplede linier i indholdsfortegnelsen.

Add future supplements on the dotted lines of the table of contents.

Bang & Olufsen

Red Line

RL 1000

RL 2000

RL 6000

RL 7000

RL 1000, TYPE 6520

RL 2000, TYPE 6521

RL 6000, TYPE 6522

RL 7000, TYPE 6523

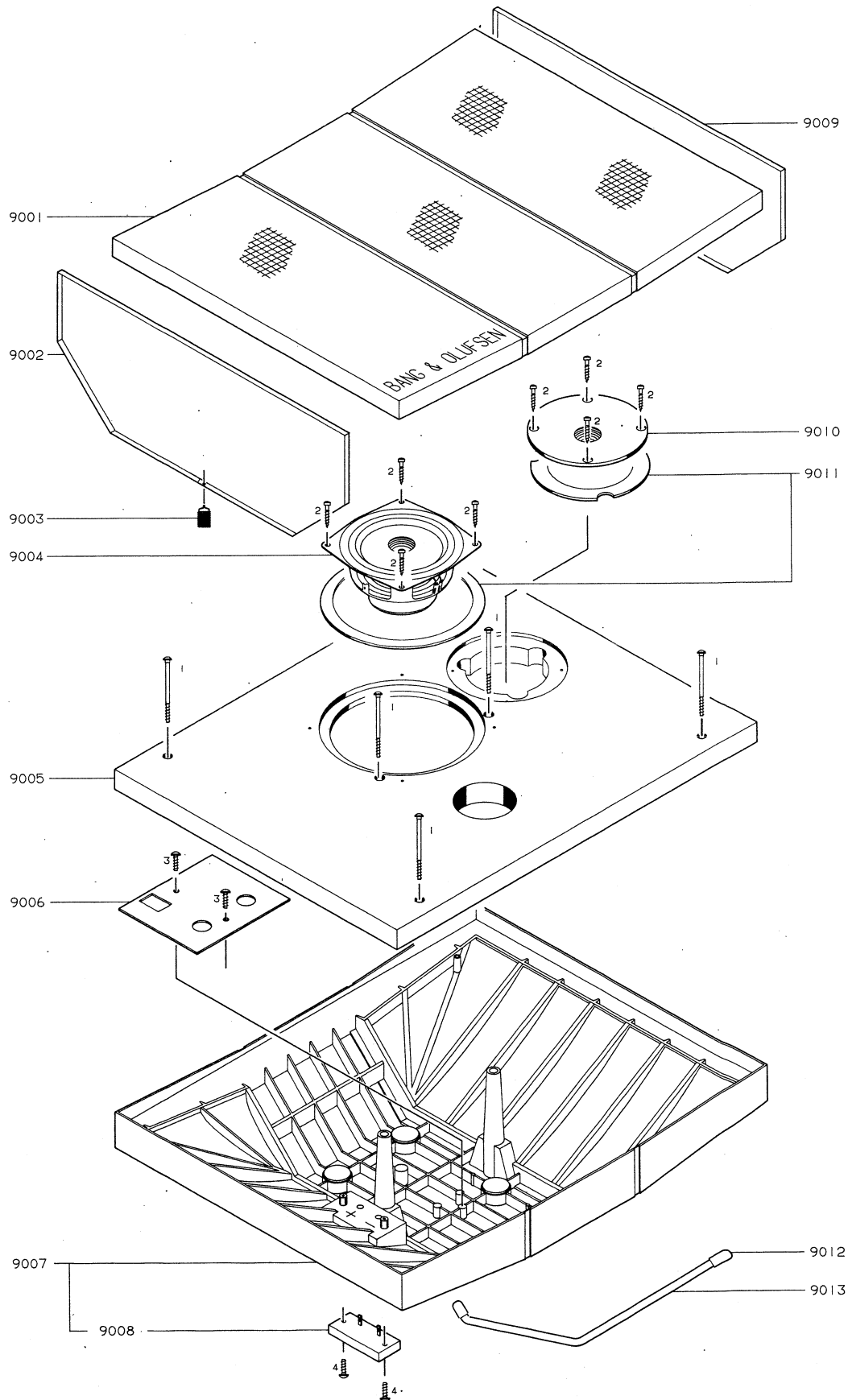
SERVICE MANUAL



13-1

Bang & Olufsen

RL 1000, type 6520



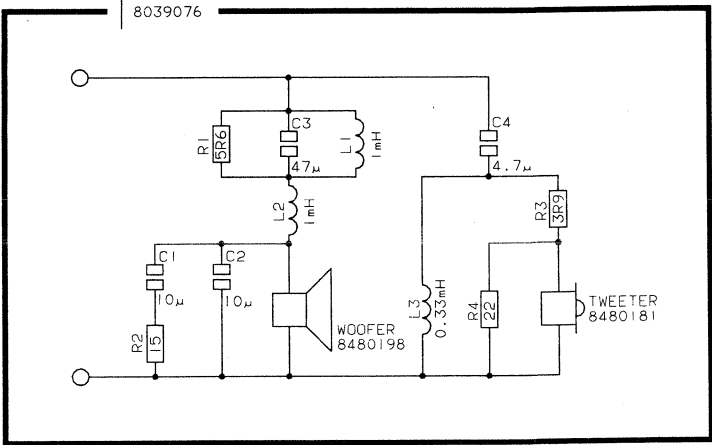
RL 1000, type 6520

Technical specifications

RMS power handling capacity	35 watts
Music power handling capacity	50 watts
Impedance	8 ohms
Frequency range +4 -8 dB	48-20,000 Hz
Power at 96 dB SPL	2.5 watts
Sensitivity 1 W	92 dB
Distortion 250-1000 Hz	<1%
Distortion >1000 Hz	<0.7%
Cabinet principle	Bass Reflex
Woofers	5" - 13 cm
Tweeter	3/4" - 1.8 cm
Crossover frequency	3500 Hz
Net. volume	10 litres
Dimensions W x H x D	40 x 32 x 12.5 cm
Weight	3.5 kg

Subject to change without notice

List of Electrical Parts



R1	5100297	5.6Ω 10% 3W	R3	5100295	3.9Ω 10% 3W
R2	5100200	15Ω 10% 3W	R4	5100055	22Ω 10% 3W

C1- C2	4200337	10μF 20% 23V	C3	4200729	47μF 20% 23V
			C4	4200387	4.7μF 20% 23V

When replacing coils L1-L3, order complete crossover network

List of Mechanical Parts

9001	3440132	Baffle with black cloth	9006	8039076	Crossover network
	3440133	Baffle with grey cloth	9007	3414261	Cabinet, black
				3414272	Cabinet, white
9002	3940195	Ribbon	9008	7210662	Double connection terminal
9003	2630025	Clamping pin	9009	3940195	Ribbon
9004	8480198	Woofers	9010	8480181	Tweeter
9005	3440140	Front frame with gasket	9011	3340050	Set of gaskets
	3947350	Gasket by the meter	9012	3341063	Rubber foot
			9013	2514063	Support bow

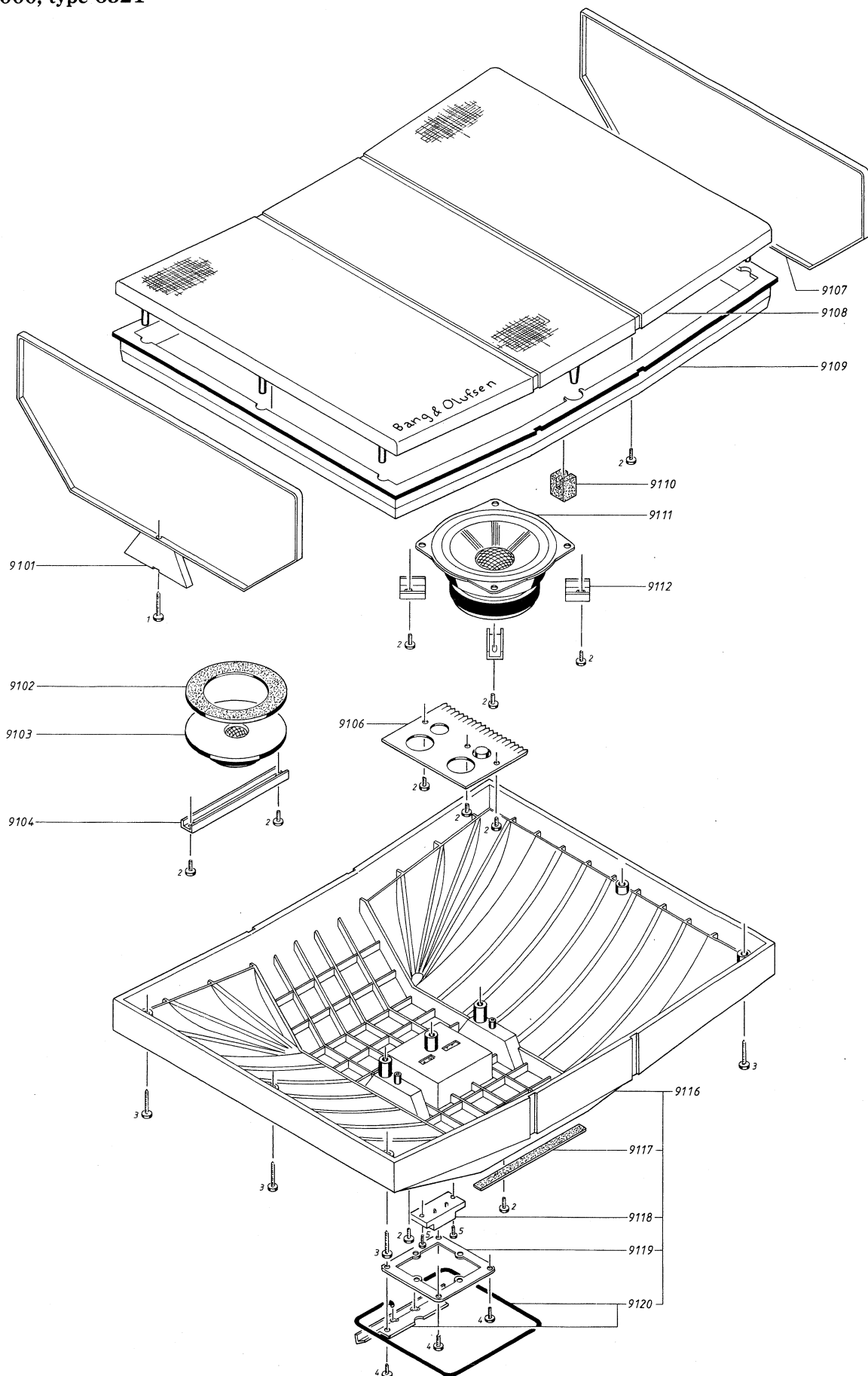
Survey of screws

1	2015112	Screw 3.5x50	3	2019009	Screw 4x12
2	2084048	Screw 4x25	4	2013123	Screw 3x10

Parts not shown

3162283	Cover f. bracket	3922031	Damping material, small
3390296	Bag		
3391888	Outer carton	6270479	Cable 5 m
3397615	Foam packing, set	3506169	Setting up guide
3922030	Damping material, big		

RL 2000, type 6521



RL 2000, type 6521

List of Mechanical Parts

9101	3940243	Ribbon set
9102	3340067	Gasket
9103	8480199	Tweeter
9104	3031143	Fitting
9106	8039072	Crossover network
9107	3940243	Ribbon set
9108	3440134	Baffle with black cloth
	3440135	Baffle with grey cloth
9109	3320193	Frame for cabinet
	3340055	Gasket for frame
9110	3907045	Rubber block
9111	8480203	Woofers
	3340048	Gasket for woofers
9112	3031124	Fitting
9116	3414279	Cabinet, black
	3414280	Cabinet, white
9117	3912049	Felt piece
9118	7210662	Double connection terminal
9119	3031110	Fitting for wall mounting
9120	2514050	Support bow with fitting

Survey of screws

1	2019012	Screw 4x50
2	2019011	Screw 4x16
3	2019013	Screw 4x40
4	2019009	Screw 4x12
5	2015106	Screw 3.5x10

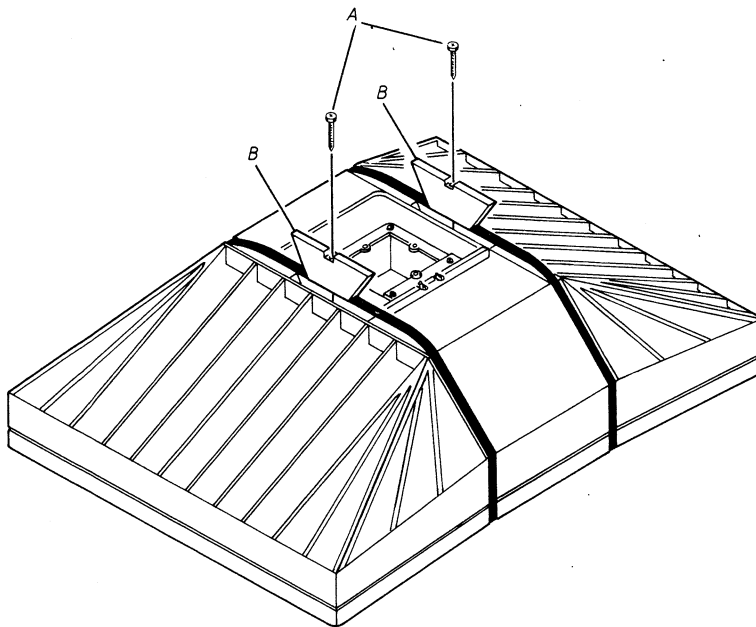
Parts not shown

3031109	Standard mounting bracket
2044015	Adjustment screw
3922018	Rock-wool block, small
3922019	Rock-wool block large
6270479	Cable 5 m
3506169	Setting up guide
3391907	Outer carton
3391909	Insert
3397556	Foam packing set
3390277	Foil bag

RL 2000, type 6521

Adskillelse

Disassembly

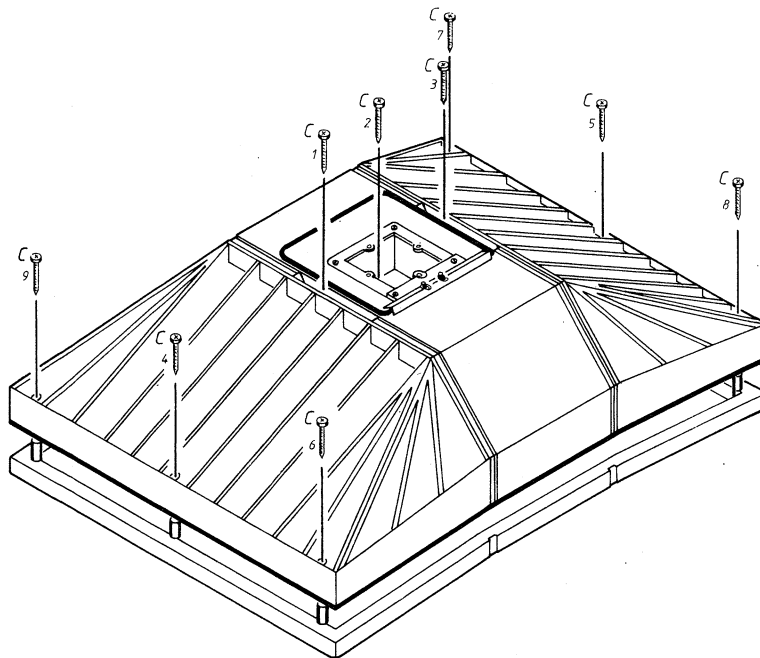


Aftag de to skruer A.

Remove the two screws A.

De to spændestykker B med pyntebånd kan nu aftages.

The two triangles B with ribbon can now be removed.



Aftag de ni skruer C.

Remove the nine screws C.

Bagparten kan nu tages af.

The rear part can now be removed.

Ved samling af højttaleren igen skal skruerne spændes i rækkefølgen 1-9, for at sikre at kabinettet er helt tæt.

When re-assembling the loudspeaker the screws must be tightened in the order 1-9, in order to ensure that the cabinet is completely tight.

Anbefalet tilspændingsmoment er 15 kp/cm.

Recommended torque is 15 kp/cm.

RL 6000, type 6522

List of Mechanical Parts

9101	3940244	Ribbon set
9102	3340101	Gasket
9103	8480209	Tweeter
9104	3031143	Fitting
9106	8039097	Crossover network
9107	3940244	Ribbon set
9108	3440136	Baffle with balck cloth
	3440137	Baffle with white cloth
9109	3320193	Frame for cabinet
	3340055	Gasket for frame
9110	3907045	Rubber block
9111	8480211	Woofers
	3340063	Gasket
9112	3031124	Fitting
9113	8480211	Woofers
	3340063	Gasket
9114	3031124	Fitting
9115	2510151	Clamp
9116	3414279	Cabinet, black
	3414280	Cabinet, white
9117	3912049	Felt piece
9118	7210662	Double connection terminal
9119	3031110	Fitting for wall mounting
9120	2514050	Support bow with fitting

Survey of screws

1	2019012	Screw 4x50
2	2019011	Screw 4x16
3	2019013	Screw 4x40
4	2019009	Screw 4x12
5	2015106	Screw 3.5x10

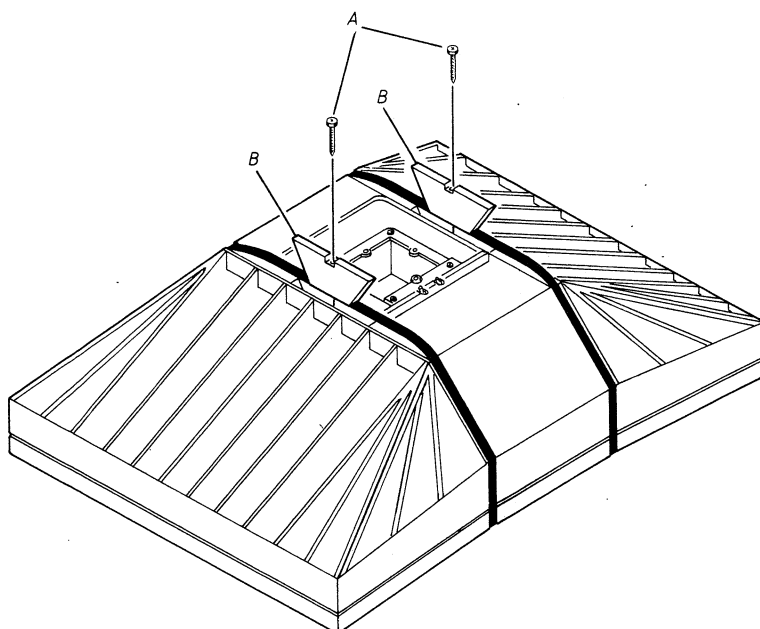
Parts not shown

3031109	Standard mounting brakcet
2044015	Adjustment screw
3922018	Rock-wool block, small
3922019	Rock-wool block, large
6270479	Cable 5 m
3506169	Setting up guide
3391907	Outer carton
3391909	Insert
3397556	Foam packing set
3390277	Foil bag

RL 2000, type 6522

Adskillelse

Disassembly

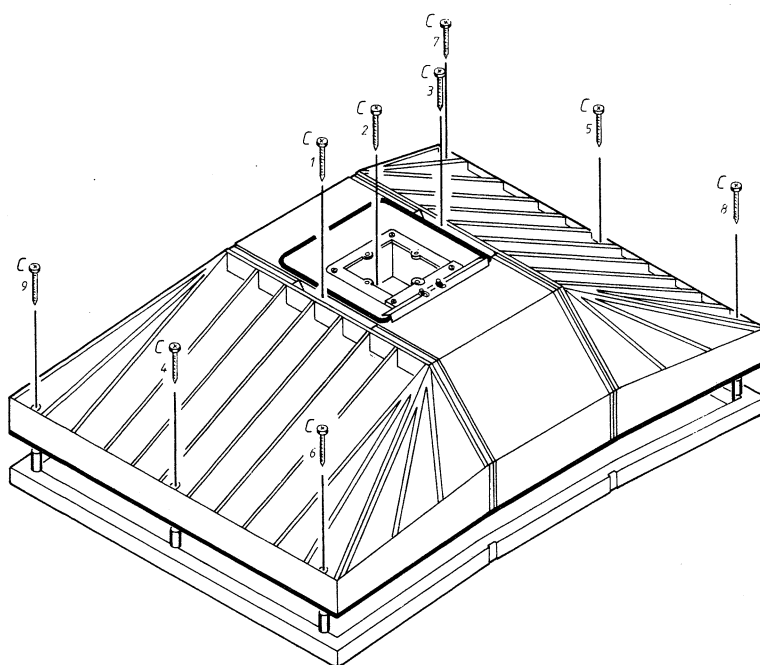


Aftag de to skruer A.

Remove the two screws A.

De to spændestykker B med pyntebånd kan nu aftages.

The two triangles B with ribbon can now be removed.



Aftag de ni skruer C.

Remove the nine screws C.

Bagparten kan nu tages af.

The rear part can now be removed.

Ved samling af højttaleren igen skal skruerne spændes i rækkefølgen 1-9, for at sikre at kabinettet er helt tæt.

When re-assembling the loudspeaker the screws must be tightened in the order 1-9, in order to ensure that the cabinet is completely tight.

Anbefalet tilspændingsmoment er 15 kp/cm.

Recommended torque is 15 kp/cm.

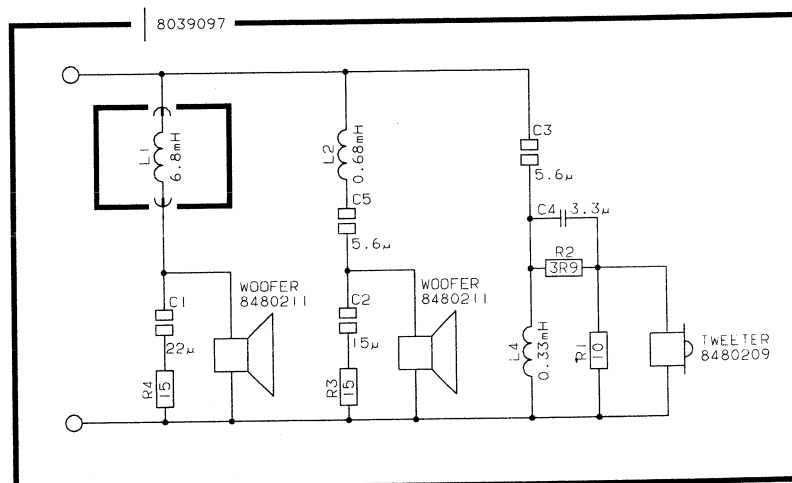
RL 6000, TYPE 6522

Technical specifications

RMS power handling capacity	60 watts
Music power handling capacity	90 watts
Impedance	8 ohms
Frequency range +4 -8 dB	42-20,000 Hz
Power at 96 dB SPL	2 watts
Sensitivity 1 W	93 dB
Acoustic principle	Bass Reflex
Woofer	2 units 5" - 13 cm
Tweeter	1" - 2.5 cm
Crossover frequency	3500 Hz
Net. volume	19 litres
Dimensions W x H x D	54 x 40.5 x 18 cm
Weight	8.3 kg

Subject to change without notice

List of Electrical Parts



R1	5020587	10Ω 5% 3W
R2	5100295	3.9Ω 10% 3W
R3-	5100200	15Ω 10% 3W
R4		

C1	4200468	22ΩF20% 23V
C2	4200679	15ΩF 10% 35V
C3	4200732	5.6ΩF 10% 35V
C4	4130425	3.3ΩF 5% 100V
C5	4200732	5.6ΩF 10% 35V

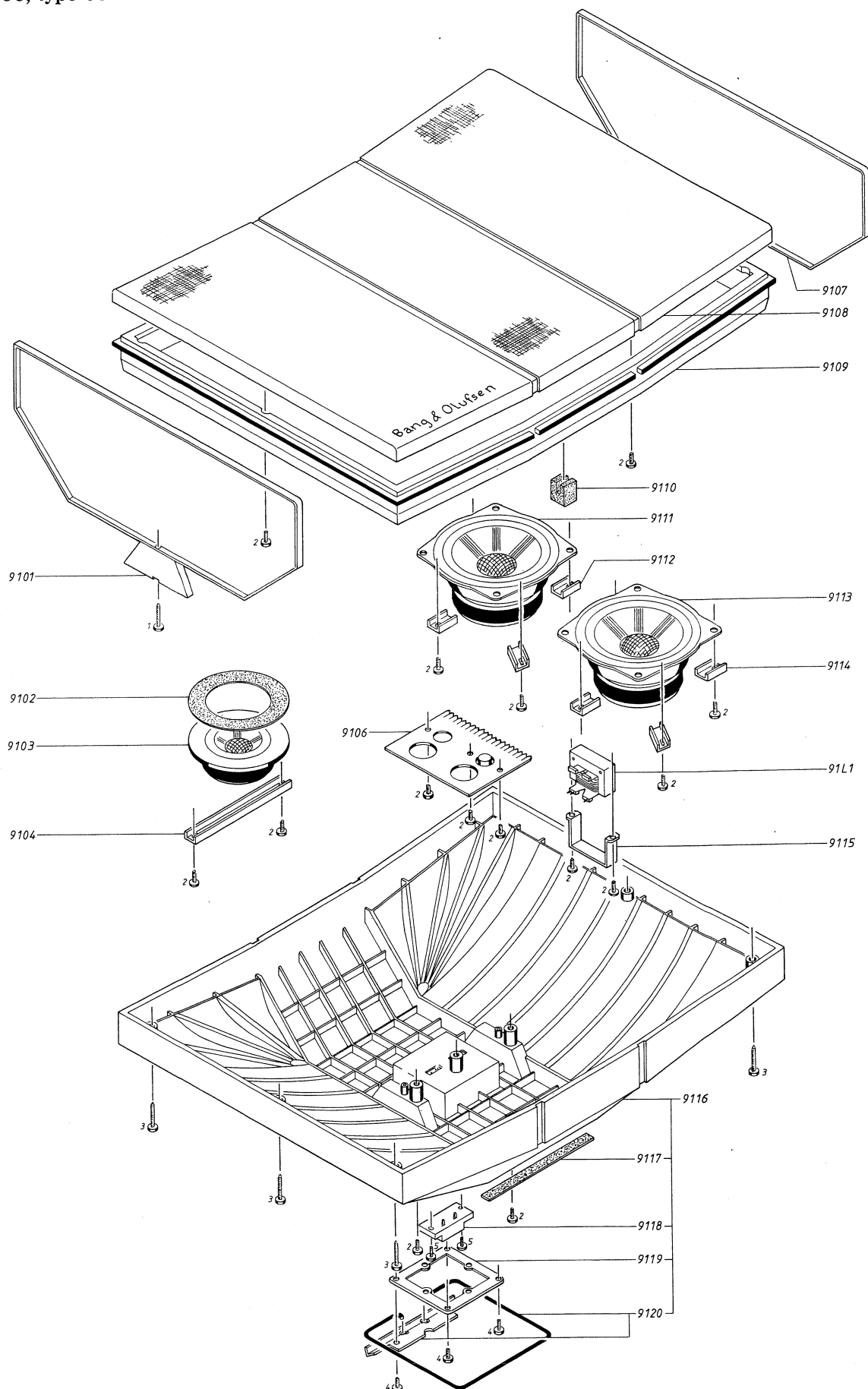
L1	6850186	Coil 6.8 mH
----	---------	-------------

When replacing coils L2-L3, order complete crossover network

15-2

Bang & Olufsen

RL 6000, type 6522

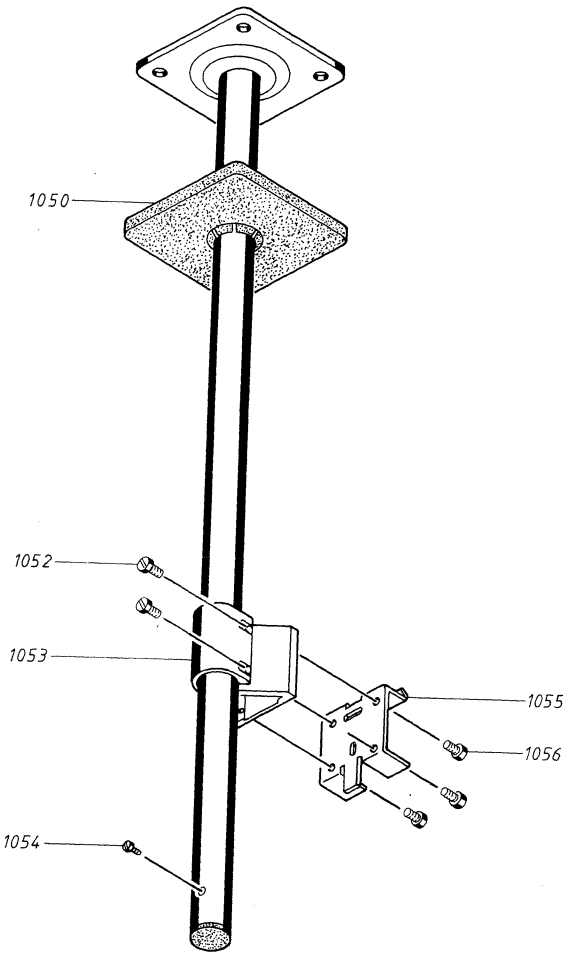


RL 6000, type 6522

Survey of accessories

8960206 Wall Bracket
3390263 Bag w. parts for Wall Bracket

Ceiling Bracket, type 6022



List of Mechanical Parts
8960220

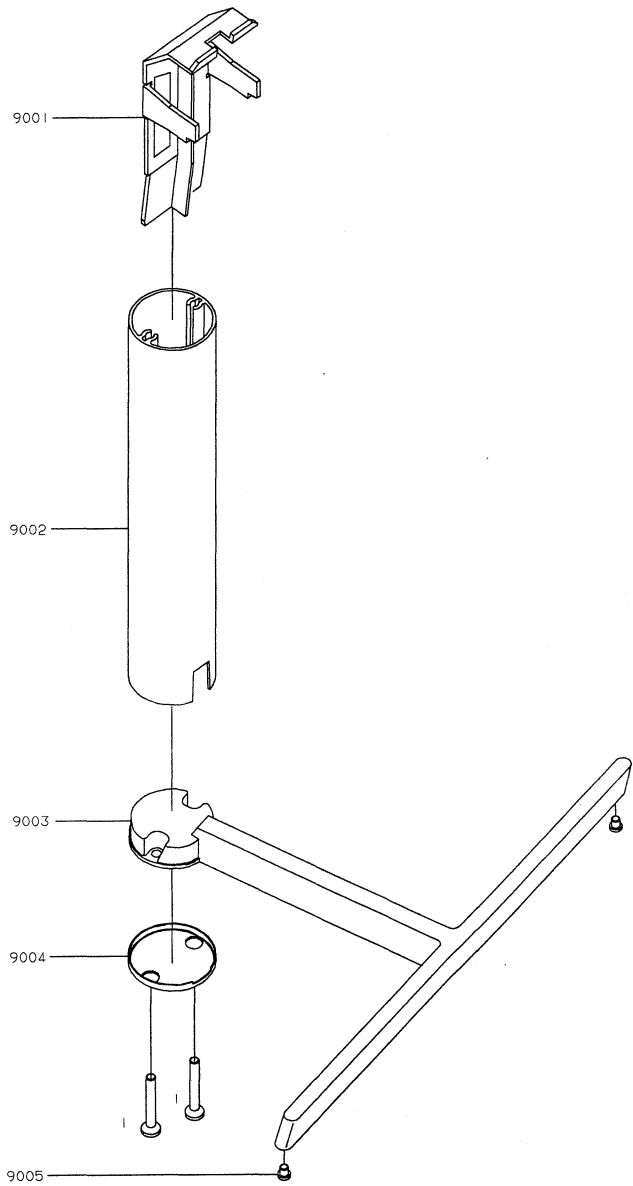
1050	3162224	Cover plate
1052	2044035	Screw AM5x10
1053	2644015	Triangle with ribbon
1054	2042201	Screw AM4x4
1055	3031109	Standard mounting bracket
1056	2044035	Screw AM5x10

Parts not shown

3390262 Bag w. parts

RL 6000, type 6522

Stand, type 6034



List of Mechanical Parts

- 1603413, Grey
- 1603466, Black
- 1603469, Silvergrey

9001	3031311	Fitting
9002	2570075	Stanchion
9003	3103304	Base, Grey
	3103330	Base, Black
	3103331	Base, Silvergrey
9004	3454675	Bottom
9005	3035055	Slide show

Survey of Screws

1	2046013	Screw 6x20
---	---------	------------

Parts not shown

3392142	Wrapper
3397717	Foam packing, bottom
3397718	Foam packing, top

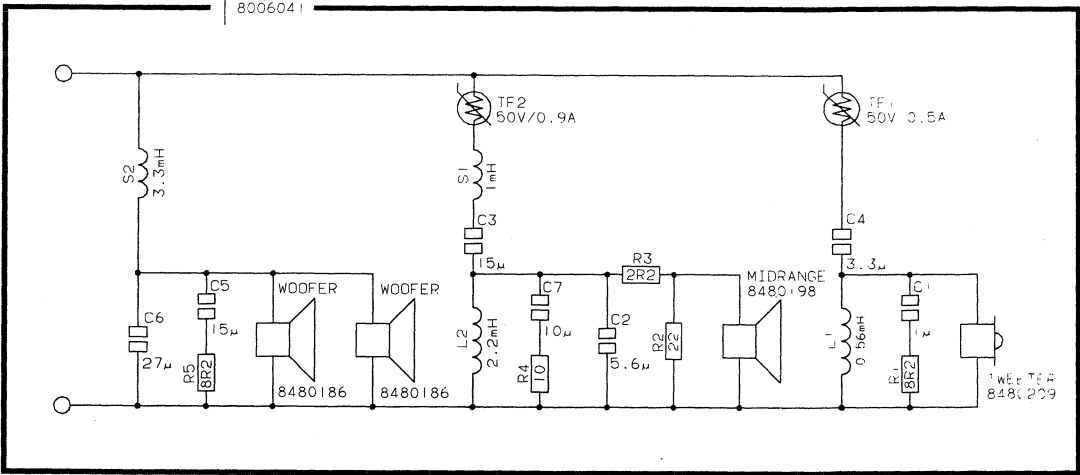
RL 7000, TYPE 6523

Technical specifications

RMS power handling capacity	140 watts
Music power handling capacity	200 watts
Impedance	8 ohms
Frequency range +4 -8 dB	40-20,000 Hz
Power at 96 dB SPL	2 watts
Sensitivity 1 W	93 dB
Distortion 250-1000 Hz	<0.7%
Distortion >1000 Hz	<0.5%
Acoustic principle	Bass Reflex
Woofer	2 units 6½" - 16.5 cm
Midrange	5" - 13 cm
Tweeter	1" - 2.5 cm
Crossover frequency	800/3000 Hz
Net. volume	38 litres
Dimensions W x H x D	70 x 50 x 24 cm
Weight	15 kg

Subject to change without notice

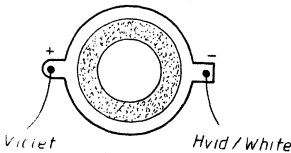
List of Electrical Parts



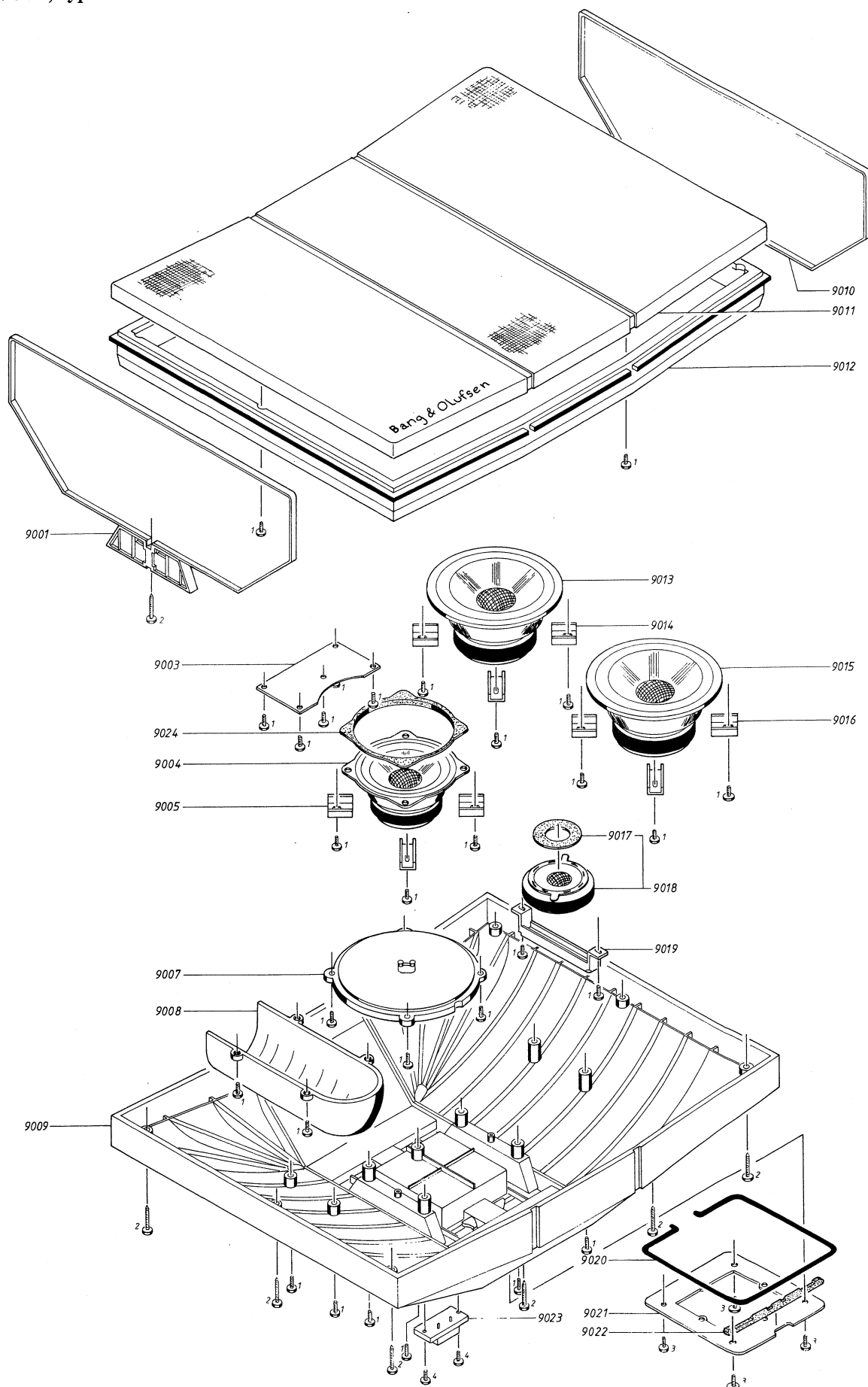
R1	5100074	8.2Ω 10% 3W	R4	5100298	10Ω 10% 7W
R2	5100055	22Ω 10% 3W	R5	5100074	8.2Ω 10% 3W
R3	5100296	2.2Ω 10% 7W			
C1	4130136	1μF20% 100V	C5	4200456	15μF 20% 35V
C2	4200732	5.6μF 10% 35V	C6	4200731	27μF 10% 35V
C3	4200456	15μF 20% 35V	C7	4200687	10μF 10% 35V
C4	4130425	3.3μF 5% 100V			
TF1	6609027	0.5A 50V	TF2	6609028	0.9A 50V

When replacing L1-L2 and S1-S2, order complete crossover network

Polarity on tweeter



RL 7000, type 6523



RL 7000, type 6523

LIST OF MECHANICAL PARTS

9001	3940242	Ribbon set
9003	8006041	Crossover network
9004	8480198	Mid-range loudspeaker
9005	3031124	Fitting for mid-range loudspeaker
9007	3160030	Cover f. mid-range loudspeaker
9008	3458410	Tub f. port
9009	3414262	Cabinet, black
	3414267	Cabinet, white
9010	3940242	Ribbon set
9011	3440138	Baffle with black cloth
	3440139	Baffle with grey cloth
9012	3320196	Frame with gasket for cabinet
	3340062	Gasket for frame
9013	8480186	Woofers
9014	3031124	Fitting f. woofer
9015	8480186	Woofers
9016	3031124	Fitting for woofer
9017	3340101	Gasket for tweeter
9018	8480209	Tweeters
9019	3031143	Fitting for tweeter
9020	2514052	Support bow
9021	3031115	Fitting for wall mounting
9022	3907048	Damping rubber f. support bow
9023	7210662	Double connection terminal
9024	3340063	Gasket for mid-range loudspeaker

Survey of screws

1	2019011	Screw 4x16
2	2019012	Screw 4x50
3	2015113	Screw 3.5x16
4	2015106	Screw 3.5x10

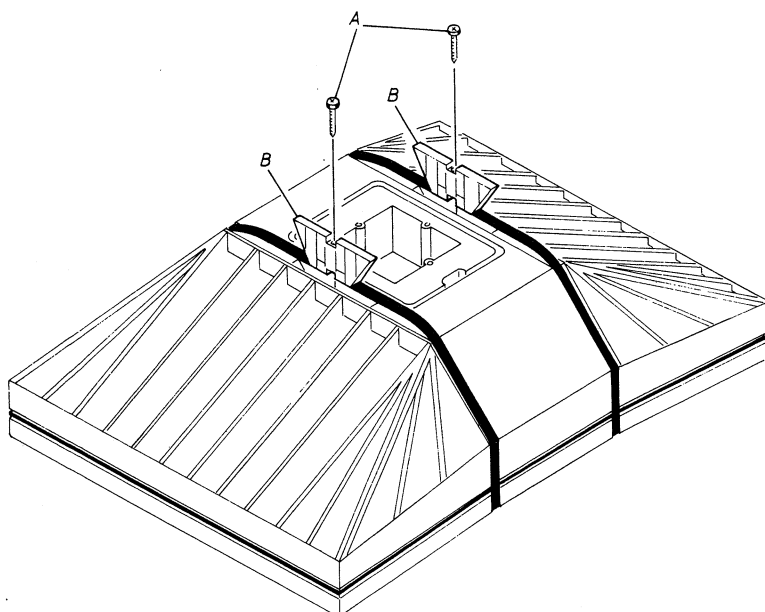
Parts not shown

3031116	Standard mounting bracket
2044015	Adjustment screw
6270479	Cable 5 m
3397587	Foam packing set
3391961	Outer carton
3390274	Bag for loudspeakers
3506169	Setting up guide
3922020	Rock-wool block, 150x450 mm
3922021	Rock-wool block, 75x450 mm
3922026	Rock-wool block, 120x150 mm
3922022	Rock-wool block, 75x200 mm
3922027	Rock-wool block, 49x500 mm

RL 7000, type 6523

Adskillelse

Disassembly

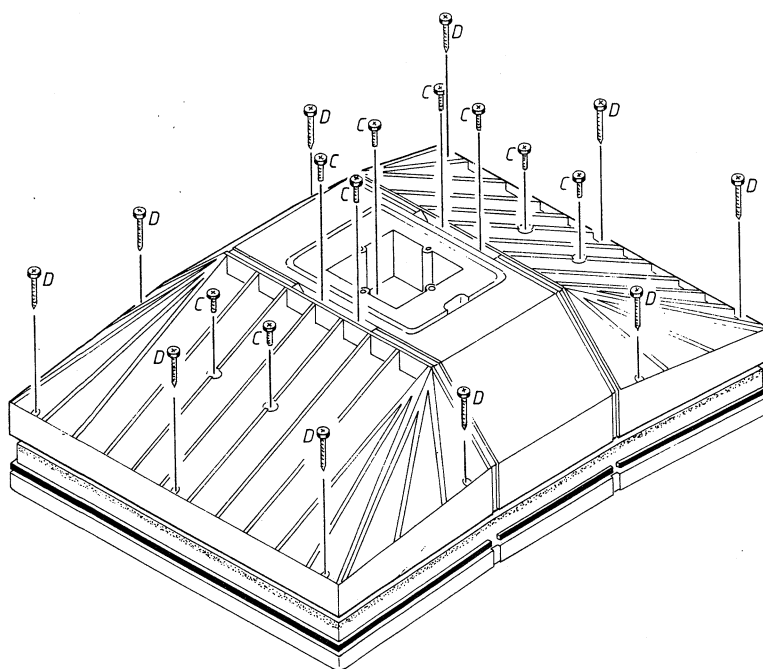


Aftag de to skruer A.

Remove the two screws A.

De to spændestykker B med pyntebånd kan nu aftages.

The two triangles B with ribbon can now be removed.



Aftag de ni skruer mærket C, og de ti skruer mærket D.

Remove the nine screws marked C and the ten screws marked D.

Bagparten kan nu tages af.

The rear part can now be removed.

Ved samling af højttaleren igen anbefales et tilspændingsmoment på 16,5 kp/cm.

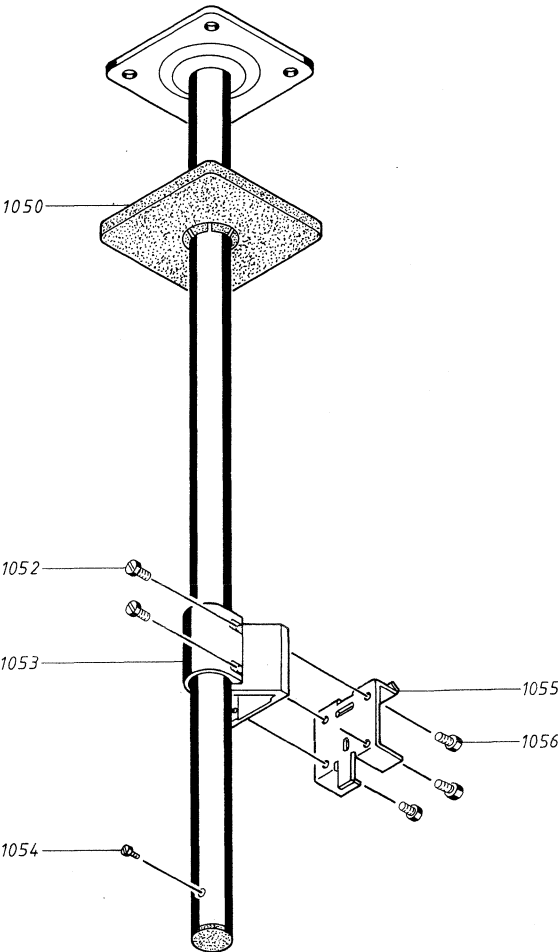
When re-assembling the loudspeaker, a torque of 16.5 kp/cm is recommended.

RL 7000, type 6523

Survey of accessories

8960216	Wall Brakcet
3390263	Bag w. parts for Wall Bracket

Ceiling Bracket, type 6023



List of Mechanical Parts
8960230

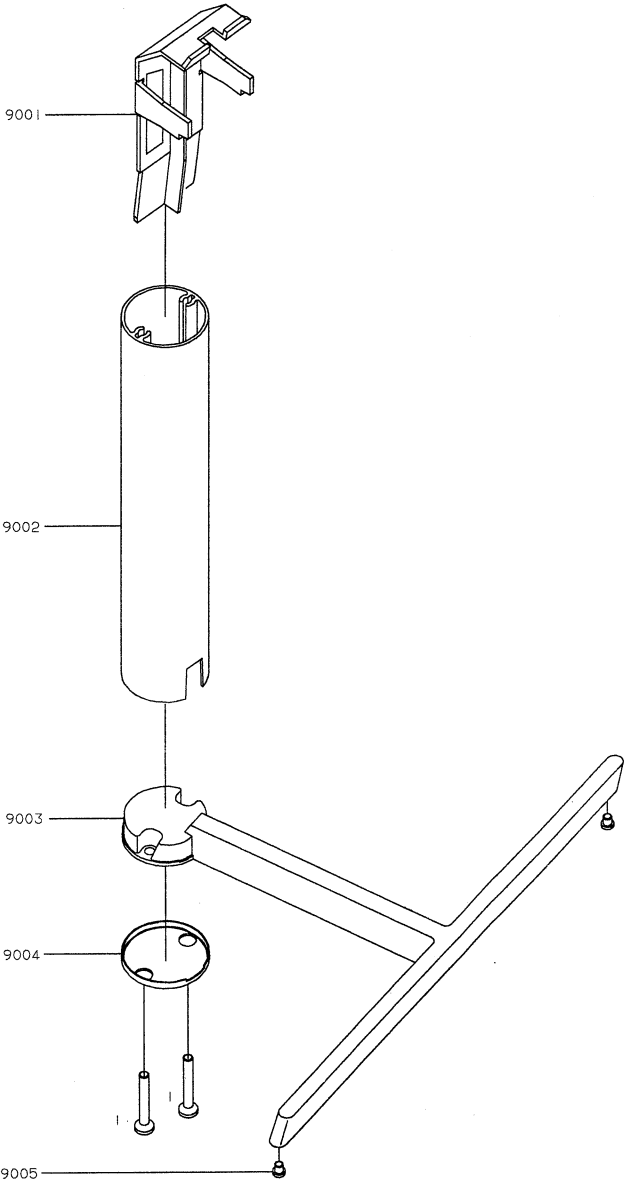
1050	3162224	Cover plate
1052	2044035	Screw AM5x10
1053	2644000	Triangle with ribbon
1054	2042201	Screw AM5x10
1055	3031116	Standard mounting bracet
1056	2044035	Screw AM5x10

Parts not shown

3390262	Bag with parts
3506105	Mounting instruction

RL 7000, type 6523

Stand, type 6035



List of Mechanical Parts

1603513, Grey

1603566, Black

1603569, Silvergrey

9001	3031312	Fitting
9002	2570077	Stanchion
9003	3103305	Base, Grey
	3103334	Base, Black
	3103335	Base, Silvergrey
9004	3454676	Bottom
9005	3035055	Slide Shoe

Survey of Screws

1	2046013	Screw 6x20
---	---------	------------

Parts not shown

3392141	Wrapper
3397715	Foam packing, Bottom
3397716	Foam packing, Top

Beolab 4500

Type 6721, 6722, 6723, 6724, 6725



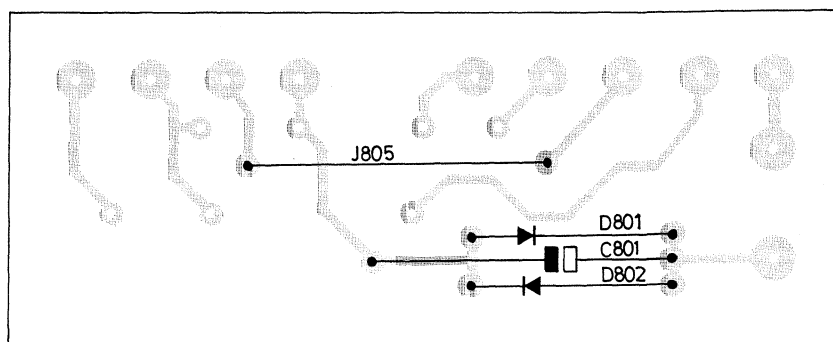
Technical specifications

Se side 1-2 under Beolab 3000
See page 1-2 for Beolab 3000

Wiring of Mains Transformer

230 V

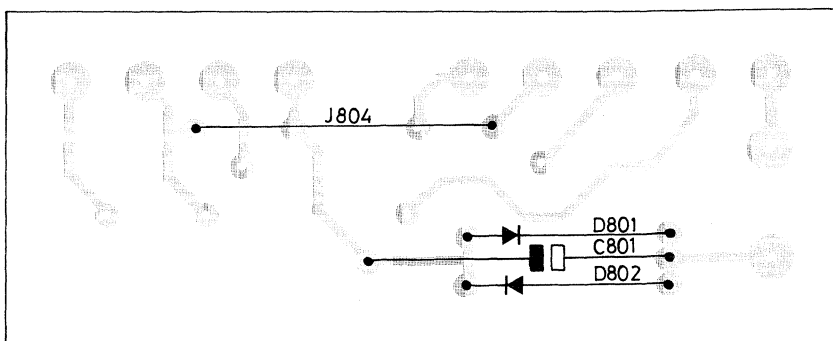
Type 6721



240 V

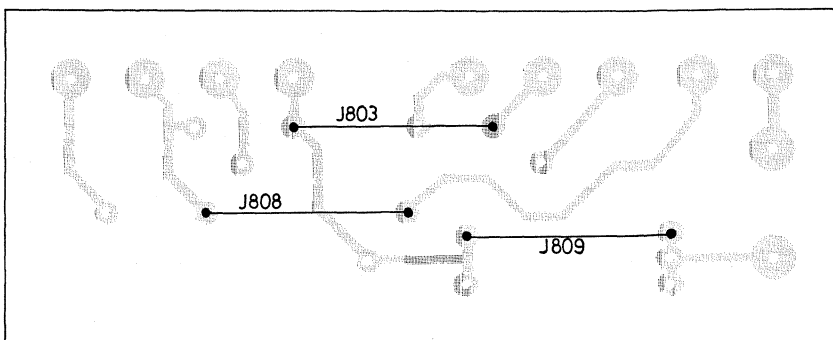
Type 6722 (GB)

Type 6725 (AUS)



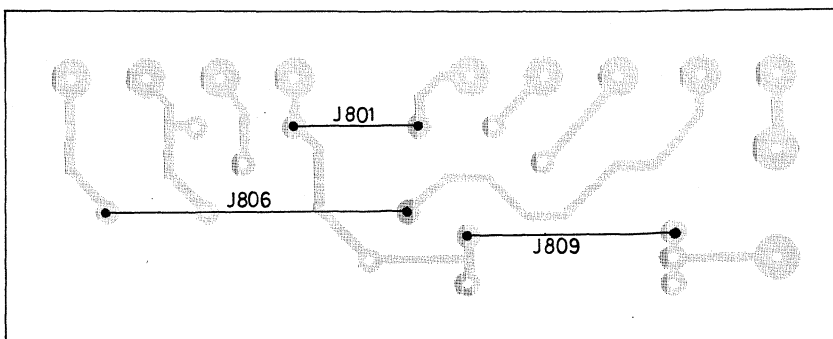
120 V

Type 6723 (US)



100 V

Type 6724 (JAP)



LIST OF ELECTRICAL PARTS

51	122	136	156	209	250		

Resistors not referred to are standard, see page 3-2
△ Indicates that static electricity may destroy the component
* Specially selected or adapted sample

PCB3, 800/524
Microprocessor

IC2*△	8341771	136	μP 80C52	IC4	8341770	122	LM2575-50
IC3	8341612	156	TL7705				
TR1	8320615	051	BC848B	TR5-	8320615	051	BC848B
TR2	8320755	051	BC847B	TR9			
TR3-	8320616	051	BC858B				
TR4							
D1	8300557	250	BYM10	D7	8300466		125V 1.5A
D6	8300795	209	1N5822				
R39*	5012142	60MΩ					
C1-	4010132	1nF 10% 50V		C14-	4000370	2.2nF 5% 50V	
C2				C21			
C3-	4000370	2.2nF 5% 50V		C22	4010209	47nF 10% 50V	
C4				C23-	4000370	2.2nF 5% 50V	
C5-	4000241	100pF 5% 50V		C25			
C7				C26-	4010166	100nF -20+80% 50V	
C8-	4000278	27pF 5% 50V		C27			
C9				C29	4200952	47μF -20+50% 25V	
C10	4010166	100nF -20+80% 50V		C30	4201116	330μF 20% 25V	
C11	4200512	1μF 20% 50V		C31	4200974	6.8μF 20% 6.3V	
C12-	4000287	220nF -20+80% 25V		C32	4000287	220nF -20+80% 25V	
C13							
L1	8020912	Coil 100μH 10%		L4	8020599	Coil 10μH	
L3	8020914	Coil 470μH					
F1	6600096	Fuse 400mA					
X1	8090075	Crystal 12MHz					
P301	7220714	Plug 7 pole		P303	7210110	Socket 11 pole	
P302	7220713	Plug 6 pole		P304	7210274	Socket 7 pole	

All other electrical parts are identical with Beolab 3000

LIST OF MECHANICAL PARTS

Expl. view

see page 4-2 and 4-3

03Modul	8001524	PCB3, Microprocessor
	3302423	Shield for µP

08Modul	8013508	PCB8, Transformer
---------	---------	-------------------

10Modul	8001485	PCB10, Display (3x4 character)
	8330222	PCB10, Display (2x6 character)

9040	3440115	Baffle w/cover and end pieces, left
	3440114	Baffle w/cover and end pieces, right
	3440150	Baffle w/alu. cover and end pieces, left
	3440151	Baffle w/alu. cover and end pieces, right
9041	3302455	Cover, left
	3302452	Cover, right
	3302528	Alu. cover, left
	3302529	Alu. cover, right

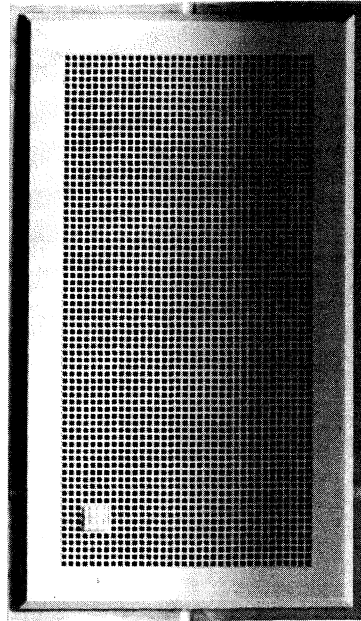
9066	3458833	Front panel, assembled, blue
	3458834	Front panel, assembled, grey

Owners Manual

3506170	Danish
3506171	Swedish
3506172	Finnish
3506173	English
3506174	German
3506175	Dutch
3506176	French
3506177	Italian
3506178	Spanish

All other mechanical parts are identical with Beolab 3000

Bang & Olufsen



In-Wall Loudspeaker

Type 6301



CONTENTS

Techinal specifications..... 1-1

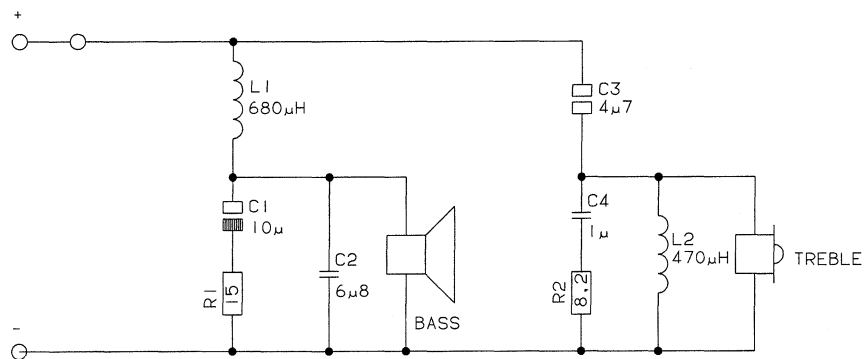
Diagrams..... 2-1

List of mechanical parts..... 3-1

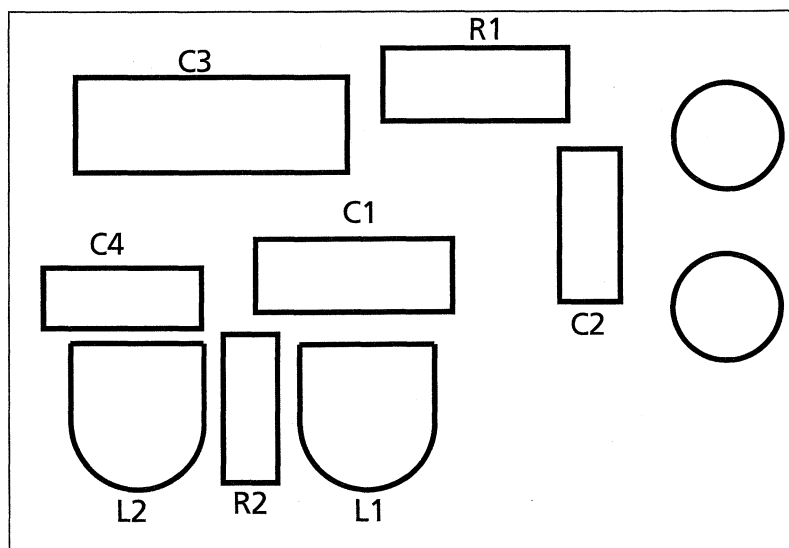
TECHNICAL SPECIFICATIONS

IWS 2000	Type 6301
Power handling RMS	80 watts
Frequency range	55-20.000 Hz
Sensitivity 1W/ 1 meter	87 dB
Distortion > 250 Hz	< 2%
Acoustic principle	Infinite baffle
Woofers	5¼" - 13.3 cm
Tweeter	1" - 2.5 cm dome
Crossover frequency	2500 Hz
Dimensions W x H x D	20.5 x 36.5 x 9.5 cm
Grille dimensions W x H	20.3 x 36.8 cm
Wall opening W x H x D	18.25 x 32.4 x min 8.25 cm
Connections	Terminal screws
Grille finish versions	White plastic for painting
Accessories included	Screws for mounting 2 speaker plugs for relay box
Extra accessories:	
Speaker cable without plugs, individual legths	Grey 6100081
	White 6100193
Master Control Link cable, without plugs, individual legths	Grey 6250113
	Grey, flat 6200130
Master Control cable, 100 meter	White 6250413
	Grey 6250365
MCL cable with plugs for audio set	White 6250366
	Grey 1.5 m 6270266
	Grey 5.0 m 6270267
	Grey 10 m 6270268
	Grey 15 m 6270269
	Grey 20 m 6270270
	Grey 30 m 6270271
	White 1.5 m 6270566
	White 5 m 6270567
	White 10 m 6270568
	White 15 m 6270569
	White 20 m 6270570
	White 30 m 6270571

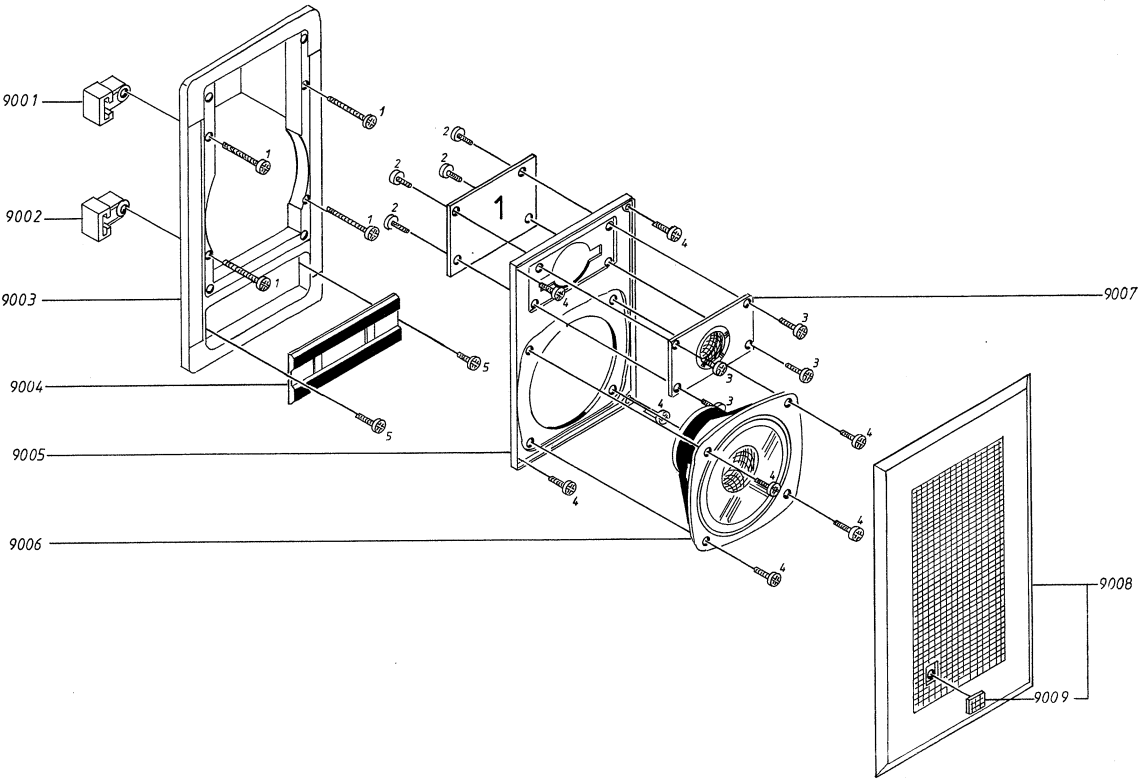
Subject to change without notice



Modul 1



List of mechanical parts



1modul 8006085			Crossover		
9001	3152924	Frame clamp	9006	8480254	Loudspeaker, woofer, 2.5cm 8Ω
9002	3152924	Frame clamp	9007	8480253	Loudspeaker, tweeter, 13.3cm, 8Ω
9003	3320223	Frame	9008	3451337	Grill
9004	3114263	Front	9009	2776327	Bottom
9005	3440166	Baffle			

Survey of screws

1	2015161	Screw 3.5x50	3	2015092	Screw 3.5x13
2	2015091	Screw 3.5x9.5	4	2015155	Screw 4x14
			5	2015089	Screw 3.5x9.5

Parts not shown

3392340	Packing	3506202	Owners manual, S
3390484	Outer carton	3506203	Owners manual, D
3506201	Bag of hardware	3506199	Owners manual, NL
	Owners manual, DK	3506200	Owners manual, F

The bag of hardware contents:	
7220027	Speaker plug
3947552	Tape
2015091	Screws for Relaybox

Bang & Olufsen

Beolab 8000

ABL and Corrections

Beolab 8000

ABL and Corrections

3538826 03-93 Paste into service manual Beovox 5 (3538717)



**Main differences from
previous model**

As from serial no. 10145230, ABL (in module 04) and a new woofer have been implemented.

The coil (pos. no. 9011 in expl. view, page 20-1) has been removed.

All other Electrical and Mechanical parts are identical with the parts mentioned in the Service Manual 3538801.

List of Mechanical Parts
Page 20-2

9001* 8480256 Woofer

*** IMPORTANT!**

Before replacing woofer, check if the coil (pos. 9011 in expl. view, page 20-1) is mounted in the set.

If the coil is mounted, use part no. 8480242.

When replacing the woofer with part no. 8480256, the tweeter level has to be readjusted. See the skema below.

Survey of screws and washers

5 2015143 Screw, 4x16

15 2622454 Washer, Ø4

18 2622455 Spacer

Parts not shown

3300133 Cable assembler, 1.5 m

3300137 Cable assembler, 20 m

All other Mechanical parts are identical with the list of Mechanical parts page 20-2.

REPAIR TIPS**PAGE 23-1****ABL (adaptive bass linearization)**

The ABL function is most easily checked by connecting an audio oscillator (80 Hz) to the input socket.

Connect a DC voltmeter across R238-PCB04.

Adjust the level of the audio oscillator until the voltage across R238-PCB04 just begins to rise from 0V. The voltage must be between 0 and 30mV. This is just sufficient for making ABL active. (The output is approx. 11W).

Now increase the level at the input by 10 dB.

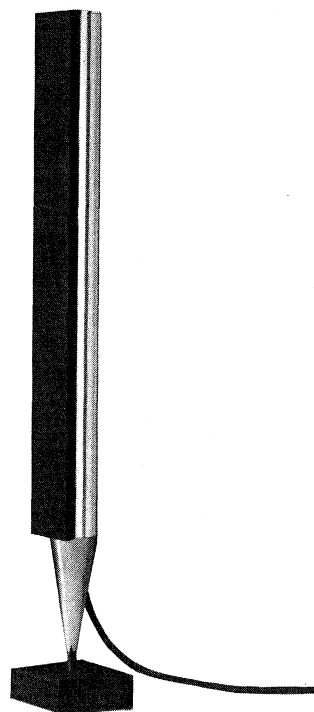
The voltage across R238-PCB04 should now rise to approx. 2.2V immediately. (The output is approx. 24W).

Reduce the level at the input by 10 dB.

After 5-10 seconds, the voltage across R238-PCB04 should drop to approx. 0V. ABL is out of operation.

Bang & Olufsen

Beolab 8000



Beolab 8000

Type 6801, 6802, 6803,
6804, 6805



Bang & Olufsen

INDHOLD

Tekniske specifikationer	17
Transformer forbindelser	17-2
Diagrammer	18
Elektrisk stykliste	19
Mekanisk stykliste	20
Justeringer	21
Adskillelse	22
Reparationstips	23
Isolationstest	24

CONTENTS

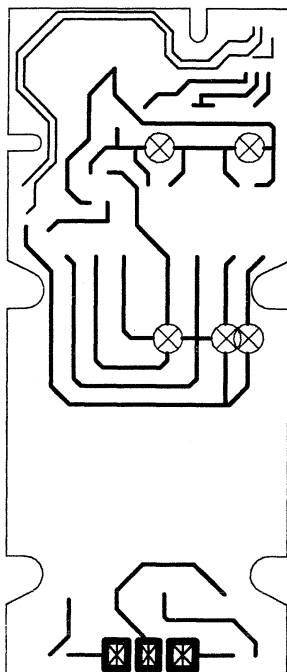
Technical specifications	17
Wiring of transformer	17-1
Circuit diagrams	18
List of electrical parts	19
List of mechanical parts	20
Adjustments	21
Dismantling	22
Repair hints	23
Insulation test	24

TECHNICAL SPECIFICATIONS	
Beolab 8000	Type 6801 (EU), 6802 (GB), 6803 (USA-CDN), 6804 (JAP), 6805 (AUS)
System data:	
Frequency response	40-22,000 Hz +4-8 dB 50-20,000 Hz ±2 dB
Sound Pressure Level	100 dB/IEC noise 3 m/stereo/room
Input impedance	47 kΩ
Harmonic distortion	1%/94 dB SPL, 1 m. 250-5,000 Hz
Electronics:	
Active crossover network	24 dB/octave, Linkwitz/Riley
High pass filter	30 dB/octave, 40 Hz
Low frequency equalization	30-250 Hz/+8 dB
Acoustics and cabinet	
Cabinet principle	Bass Reflex
Woofer	2 units 4"-10 cm
Tweeter	1"-2.5 cm
Crossover frequency	4200 Hz
Net volume	5.3 litres
Power amplifier:	
Frequency range	40-20,000 Hz +0-1 dB
Signal-to-noise ratio	>96 dB A-weighted, max. power
Input sensitivity/impedance:	
Power Link sockets	1 V/47 kΩ
Power Link channel separation	>55 dB/10,000 Hz
Stand by function	Automatic ON-OFF
Connections:	
Power Link	8-pin socket
Line	Phono socket
Power supply	230 Volts (6801), 240 Volts (6802) 120 Volts (6803), 100 Volts (6804), 240 Volts (6805)
Power consumption	<210 Watts
Stand by	<2 watts
Finish	Polished aluminium, black front cloth
Total dimensions W x H x D	15 x 132 x 15 cm
Weight	20 kg
Subject to change without notice	

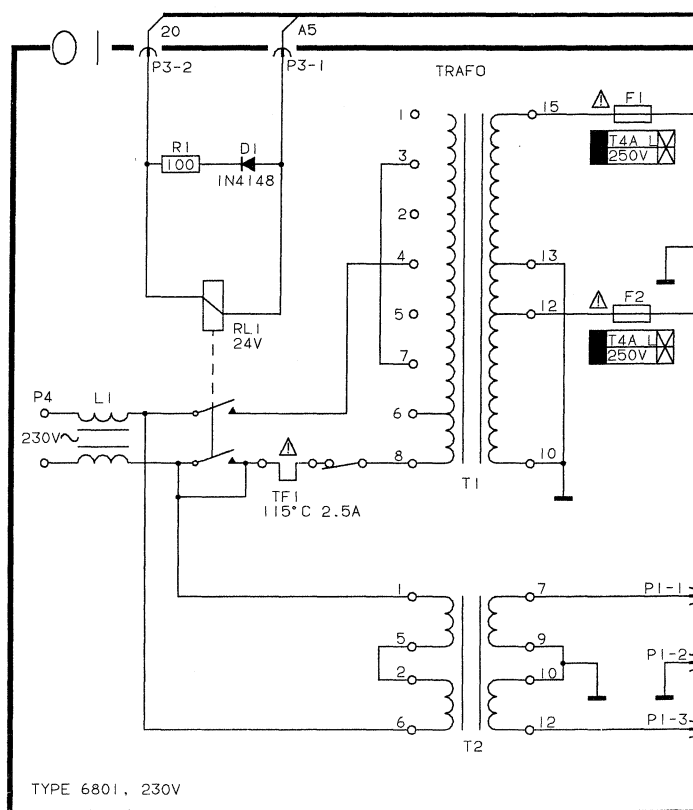
WIRING OF TRANSFORMER

Type 6801

EU 230 V~

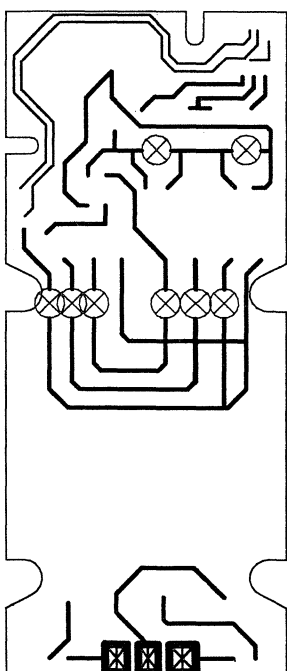


230V - TYPE 6801

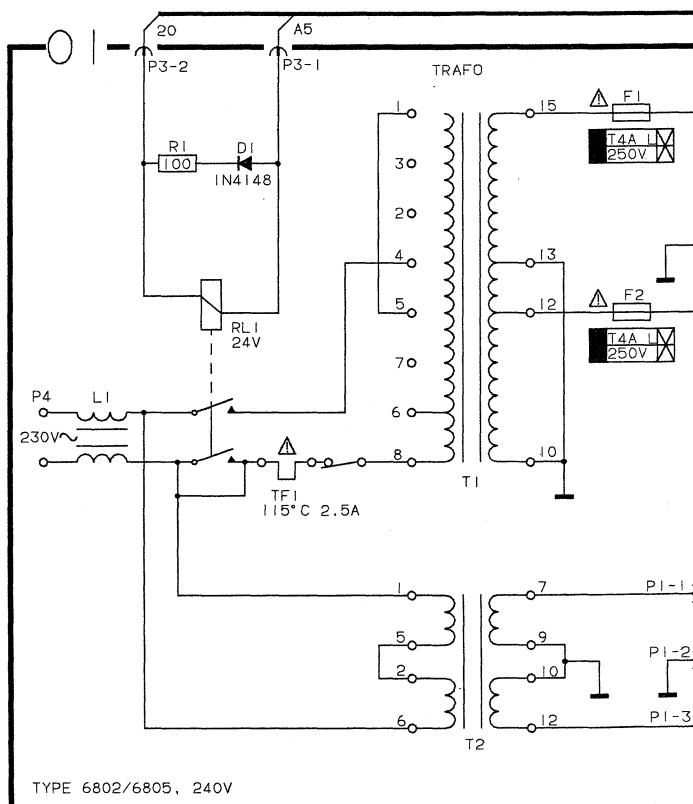


Type 6802, 6805

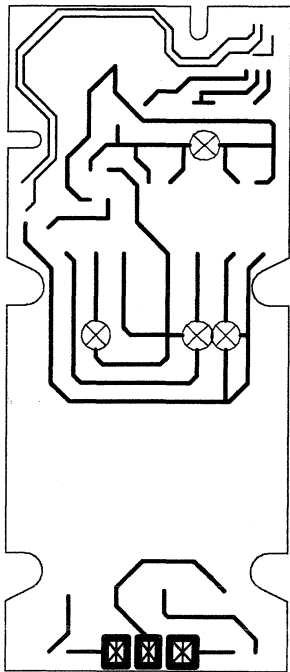
GB, AUS 240 V~



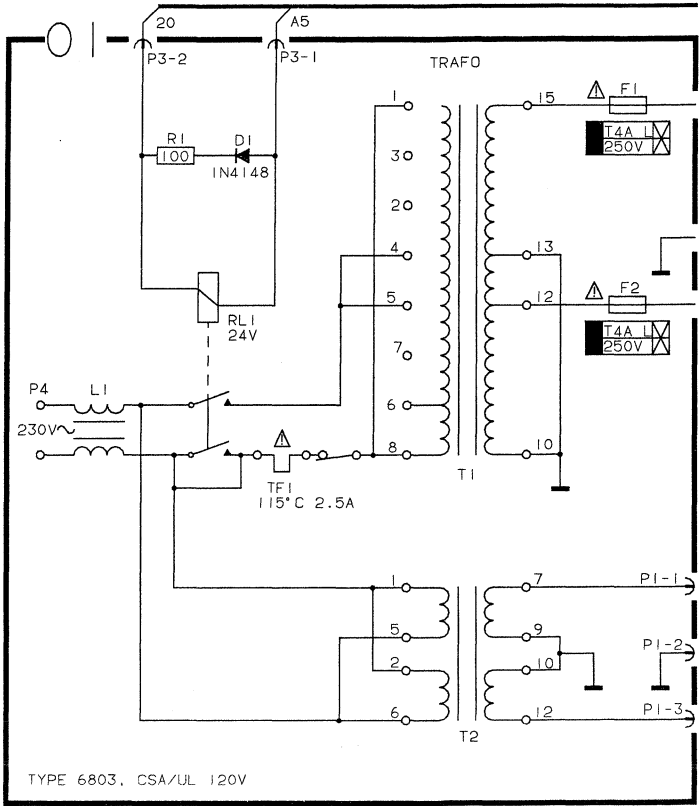
240V - TYPE 6802/6805



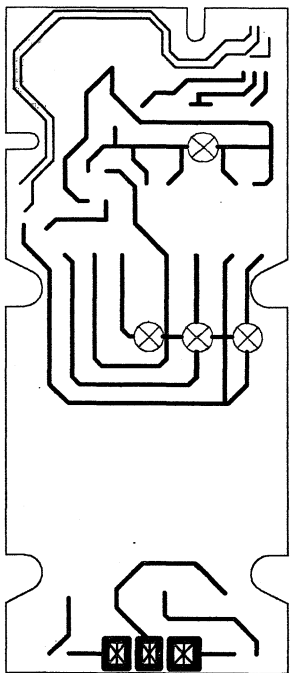
Type 6803
USA 120 V~



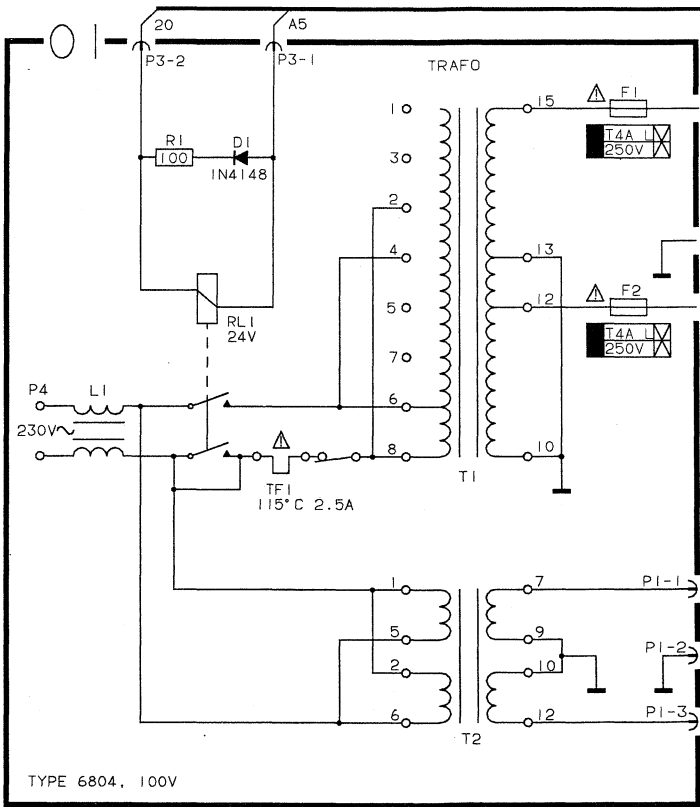
120V - TYPE 6803



Type 6804
JPN 100 V~



100V - TYPE 6804



DIAGRAMFORKLARING

På diagrammerne er der angivet typenumre på transistorer og IC'er. Hvis positionsnummeret er efterfulgt af en stjerne, skal reservedelsnummeret altid benyttes, da denne komponent er specielt udvalgt, f.eks. TR102*.

Styrekredsløb

I visse styrekredsløb er den aktive tilstand angivet med en funktions- eller bogstavsangivelse. Denne kan eksempelvis være $\overline{\text{ST.BY.}}$ = »low« i stand-by-stilling eller ST.BY. = »high« i stand-by-stilling.

Forsyningsspændinger

Alle forsyningsspændinger i diagrammerne er angivet med en pil og en spændingsangivelse.

Eksempel:

Ved siden af spændingsangivelsen står der f.eks. 7 CON. Dette betyder, at den pågældende forsyningsspænding går til 7 steder på den pågældende diagramside (7 CON. = 7 connections).

EXPLANATION OF DIAGRAM

Type numbers of transistors and ICs are indicated on the diagrams.

If the position number is followed by an asterisk the spare part number must always be used because the component in question has been specially selected, e.g. TR102*.

Control Circuit

In certain control circuits the active mode is indicated by a function term or by an abbreviation. This may be e.g. $\overline{\text{ST.BY.}}$ = low in the stand-by mode or ST.BY. = high in the stand-by mode.

Supply Voltages

All supply voltages in the diagrams are indicated by an arrow and a voltage indication.

Example:

"7 CON.". This means that the supply voltage in question goes to 7 different places on the diagram page in question (7 CON. = 7 connections).

SYMBOL FOR SIKKERHEDSKOMPONENTER

Ved udskiftning af komponenter med dette symbol skal der anvendes komponenter med samme reservedelsnummer. Den nye komponent skal monteres på samme måde som den udskiftede.

SYMBOL OF SAFETY COMPONENTS

When replacing components with this symbol, components with identical part numbers must be used. The new component must be mounted in the same way as the one replaced.

MÅLEBETINGELSER

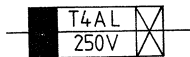
Alle DC-spændinger er målt i forhold til stel med et voltmeter med en indgangsmodstand på 10 Mohm.

DC-spændingerne er opgivet i volt (V), f.eks. 0,7 V.

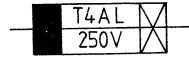
MEASURING CONDITIONS

All DC voltages have been measured in relation to ground with a voltmeter with an input resistance of 10 Mohms.

The DC voltages are stated in volts (V), e.g. 0.7 V.

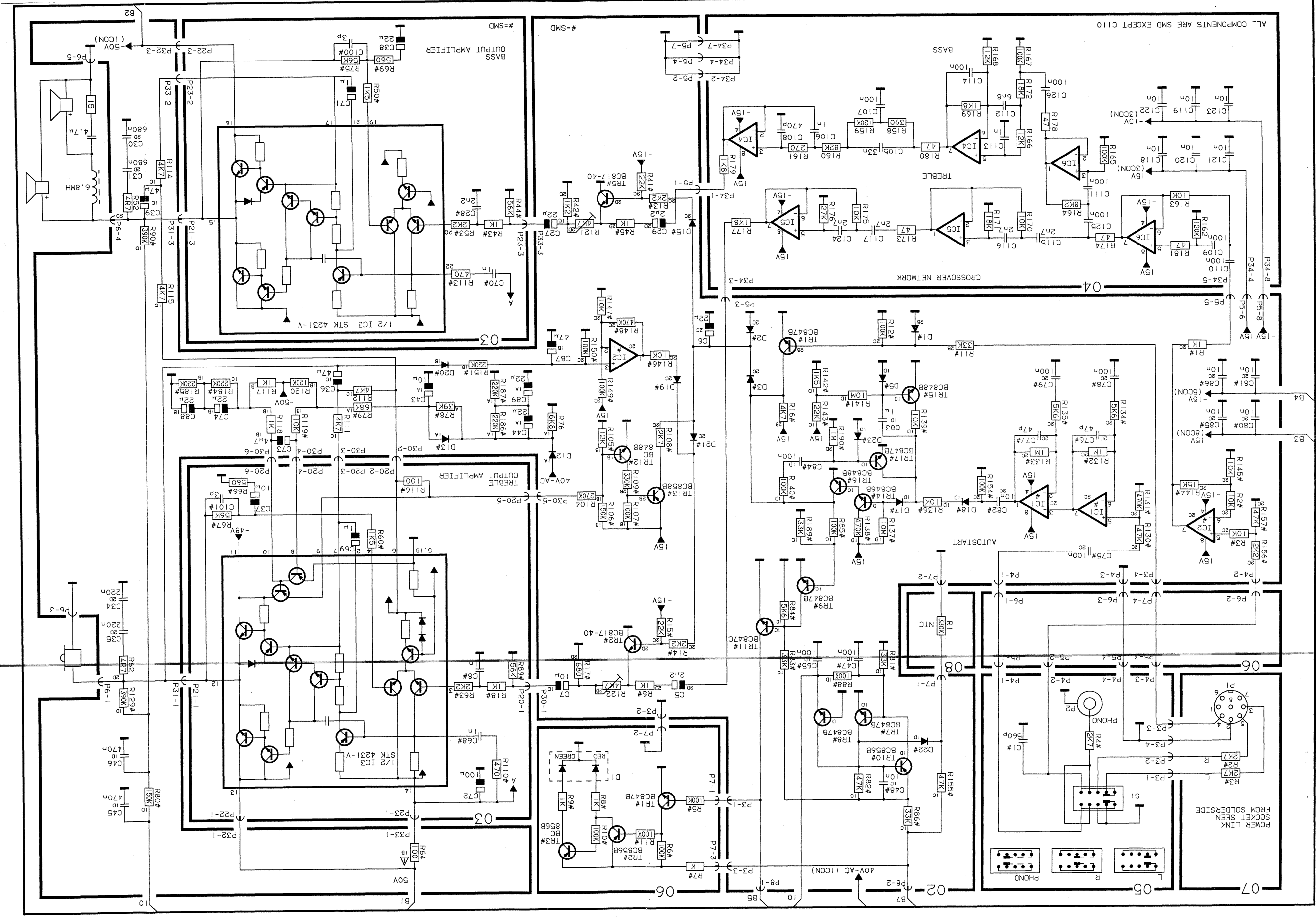
EXPLANATION DE SYMBOLES DU FUSIBLE UTILISES DANS L'APPAREIL

Remplacer par un fusible retardé de la même type et de 4 ampères 250 volts.

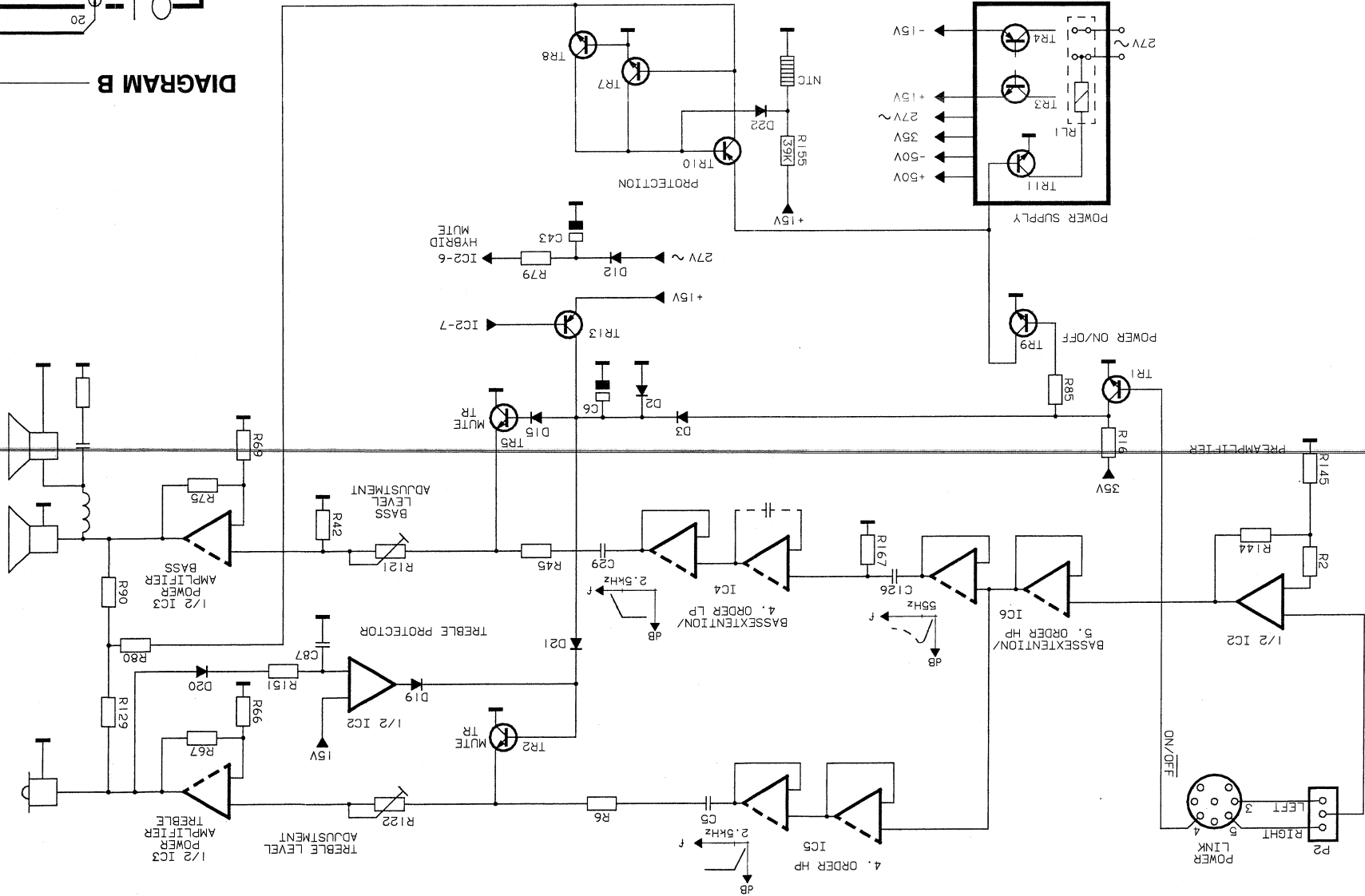
EXPLANATION OF THE FUSE SYMBOLS USED IN THE SET

Replace with the same type of 4 amperes 250 volts slow acting fuse.

ALL COMPONENTS ARE SMD EXCEPT C110



BLOCK DIAGRAM



PCB2, Power Supply

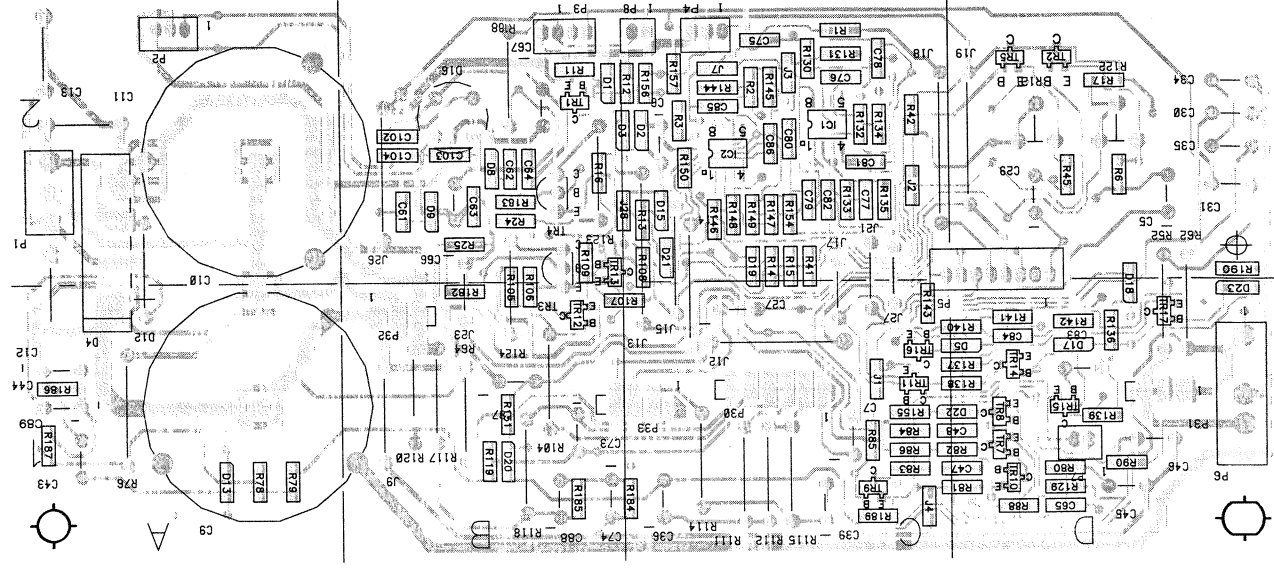
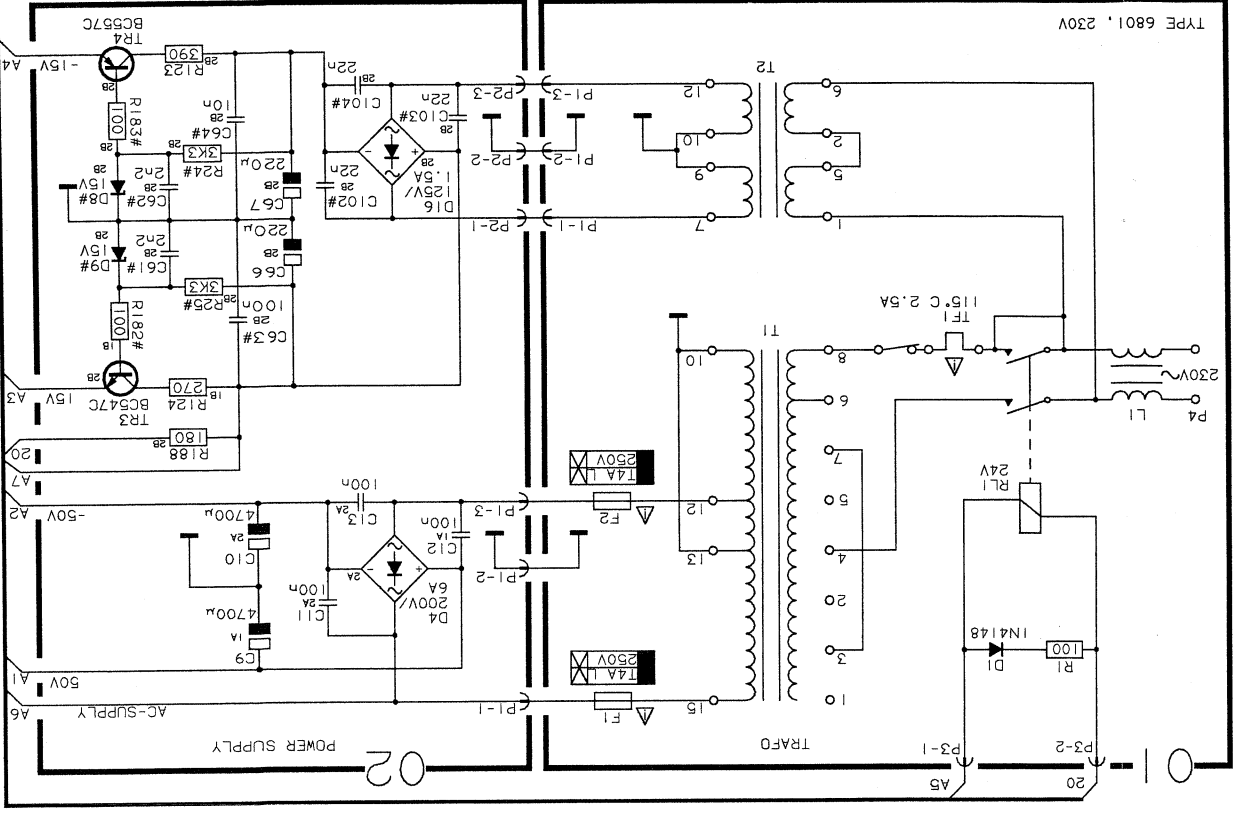
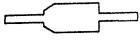


DIAGRAM B

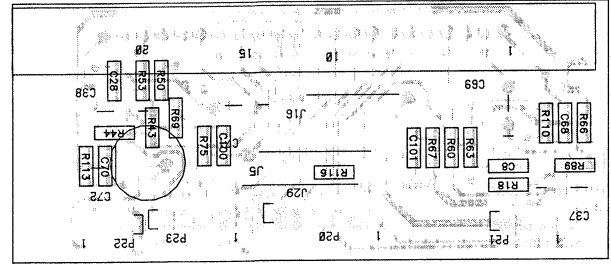


PCB3, Output Amplf.

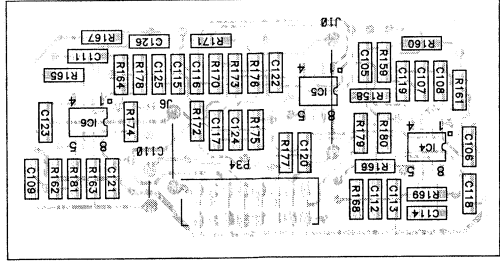








SMD Survey

PCB3, Output Amplf.



~~PCB4, Crossover network~~



20	
51	
138	
141	
209	
250	

Resistors not referred to are standard, see page 3-12
Δ indicates that static electricity may destroy the component.

PCB01, 8006038

Transformer

D1	8300798	209	IN 4148
L1	8022295	Coil 2x0.4 mH	
RL1	7600106	Relay 24V	
T2	8013473	Transformer	
FI-	6600068	Fuse T4A 250V	
F2	7200085	Fuse holder	
IC1-	8341022	138 4558	

PCB02, 8006047

Power Supply

TR1	8320755	051	BC847B
TR2	8320752	051	BC817-40
TR3	8320498	020	BC547C
TR4	8320540	020	BC57C
TR5	8320752	051	BC817-40
TR7-	8320755	051	BC847B
TR9	8320753	051	BC856B
D1-	8300482	250	LL4148
D3	8300482	250	LL4148
D4	8300497	KBU 6D	
D5	8300482	250	LL4148
D8-	8300584	250	Z15V 5%
D9			
R64	5020159	100Ω 10% 0.3W	
R121-	5370370	4.7kΩ 30% 0.3W	
R122			

C5	4200517	2.2μF 20% 50V	
C6	4200672	22μF 20% 16V	
C7	4200510	10μF 20% 16V	
C9-	4201093	4700μF -20+50% 63V	
C10	4130103	100nF 20% 250V	
C11-	4130103	100nF 20% 250V	
C13	4200525	22μF 20% 10V	
C27	4200517	2.2μF 20% 50V	
C29	4200517	2.2μF 20% 50V	
C30-	4130311	680nF 10% 63V	
C31	4130233	220nF 20% 63V	
C35			
C36	4200688	47μF 20% 50V	
C39	4200688	47μF 20% 50V	
C43	4200561	10μF 20% 50V	
C44	4200824	22μF 20% 50V	
C45-	4130234	470nF 10% 63V	
C46	4010166	100nF -20+80% 50V	
C47	4010176	10nF -20+80% 50V	
C48			

PCB03, 8006046

Output Amplf.

C102-	4010216	22nF 10% 100V	
C87	4200688	47μF 20% 50V	
C88-	4200824	22μF 20% 50V	
C89			
P1	7220185	Plug 3 pole	
P2	7220710	Plug 3 pole	
P3	7220711	Plug 4 pole	
P4	7220710	Plug 3 pole	
IC3Δ	8350082	141 Hybrid STK4231-V	

PCB04, 8006048

Crossover network

IC4-	8341022	138 4558	
IC6Δ			
C105	4010175	33nF 10% 50V	
C106	4000345	1nF 5% 50V	
C107	4010220	100nF 10% 50V	
C108	4000286	470nF 5% 50V	
C109	4010220	100nF 10% 50V	
C110	4130230	100nF 20% 63V	
C111	4010220	100nF 10% 50V	
C112	4010174	6.8nF 10% 50V	
C113	4000345	1nF 5% 50V	
P34	7210768	Plug 8 pole	
C1	4000344	560pF 5% 50V	
S1	7400371	Switch	
P2	7210384	Socket, Phono	
P3	7220711	Plug 4 pole	
TR1	8320755	051 BC847B	
TR2-	8320753	051 BC856B	
TR3			
D1	8330289	LED	
R7-	5011631	1kΩ 1% 1/4W	
R9			
P5	7220712	Plug 5 pole	
P6	7220710	Plug 3 pole	
P1	7210518	DIN-Socket 8 pole	
R1	5220036	330kΩ 10% 1/2W	

PCB06, 8006050

Stand by

TR1	8320755	051 BC847B	
TR2-	8320753	051 BC856B	
TR3			
D1	8330289	LED	
R7-	5011631	1kΩ 1% 1/4W	
R9			
P5	7220712	Plug 5 pole	
P6	7220710	Plug 3 pole	
P1	7210518	DIN-Socket 8 pole	
R1	5220036	330kΩ 10% 1/2W	

PCB07, 8006051

Power Link

PCB08, 8006049

NTC

C104	4010216	22nF 10% 100V	
C87	4200688	47μF 20% 50V	
C88-	4200824	22μF 20% 50V	
C89			
P1	7220185	Plug 3 pole	
P2	7220710	Plug 3 pole	
P3	7220711	Plug 4 pole	
P4	7220709	Plug 2 pole	
P5	7220788	Plug 8 pole	
IC3Δ	8350082	141 Hybrid STK4231-V	

